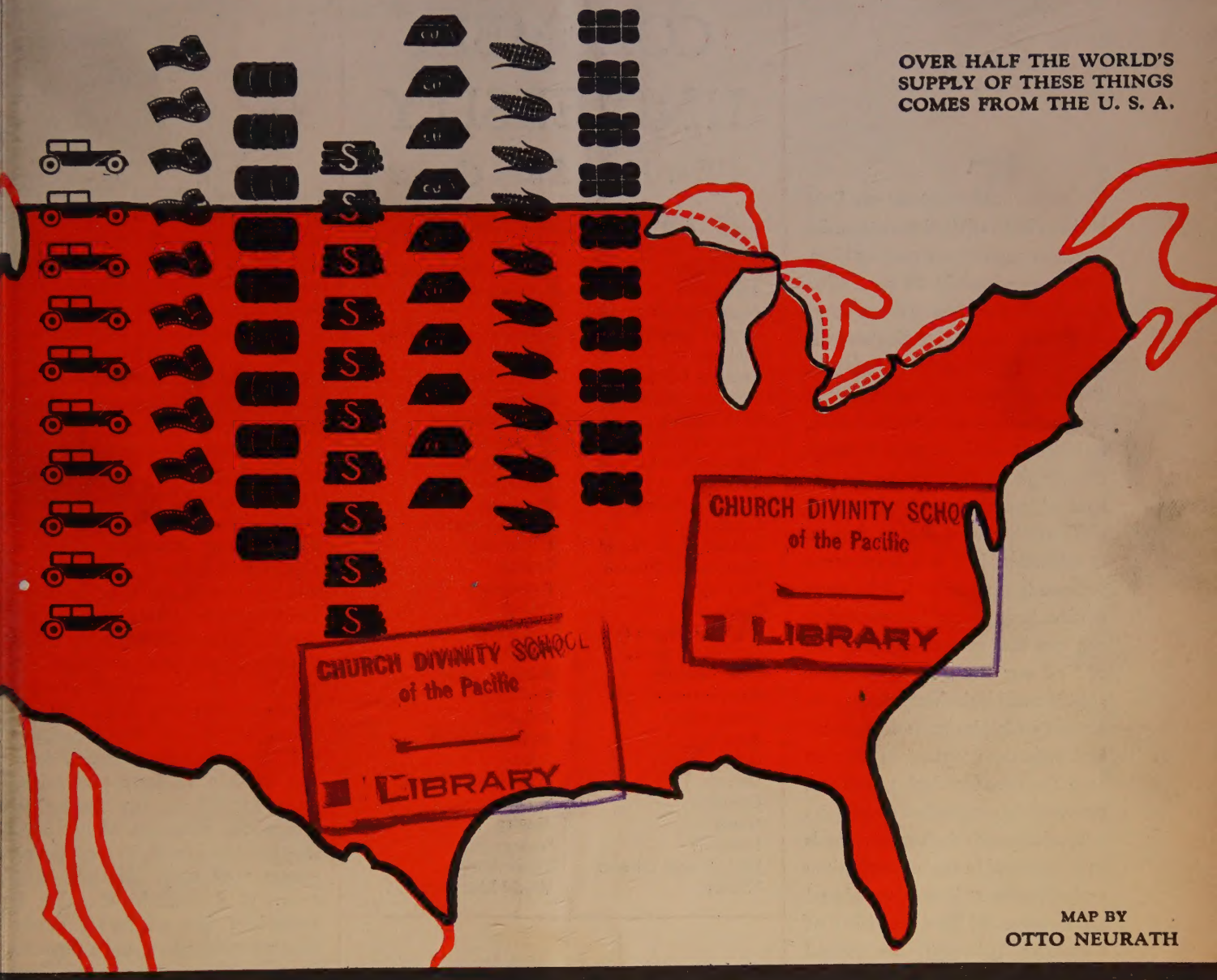
MARCH GRAPHIC SURVEY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WHEN WE CHOOSE TO

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THE SURVEY

Graphic Number

Vol. LXVII, No. 11 March 1, 1932

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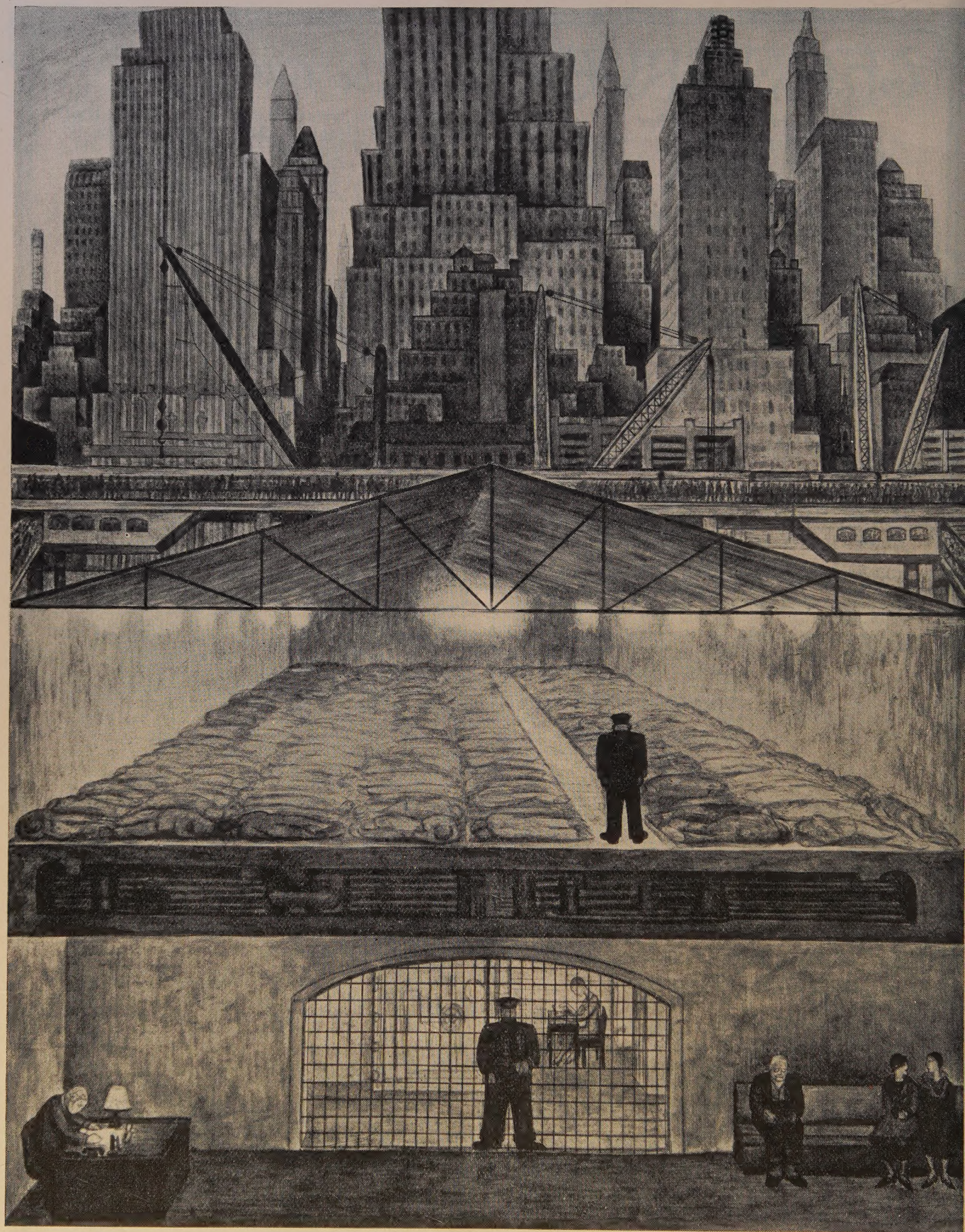
The Gist of It

ONE of the first to stir the public imagination with the planning idea, MR. CHASE here brings it home to the "average American" (page 566). Expert accountant and director of Consumers' Research, Inc., he is best known as author of Men and Machines and of Mexico. Survey Graphic readers have had the ground broken for this number by two earlier articles by MR. LORWIN—A Five Year Plan for the World (December) and The Origins of Economic Planning (February). After holding various college and university posts, he is now a member of the staff of Brookings Institution, Washington, D. C., (page 569). So too is MR. LUBIN (page 573), whose first-hand inquiry for the Senate Committee on Education and Labor was a feature of our special number (six months before the stock-market crash) on Unemployment and Ways Out (April 1929).

Formerly on the faculty of the Amos Tuck School of Administration and Finance at Dartmouth, MR. PERSON is managing director of the Taylor Society (page 579), our ranking exponent of scientific management. MR. BRUÈRE edited our Giant Power number (March 1924), which, like this, foraged along borderlands of social and economic life (page 583). MR. HILLMAN (page 586) is general president of the Amalgamated Clothing Workers of America and was the recipient of the medal and award of the Harmon Foundation for distinguished social achievement. MR. KENDALL (page 592) is president of the Kendall Company, with nine plants in six states. MR. LINDEMAN (page 595) of the staff of the New York School of Social Work has been deep in a survey of employment management in sequence to his earlier studies of agricultural cooperation. The Survey Graphic for February carried MR. HARD's companion article, Ingots and Doles, showing the human breakdown through unemployment of the present scheme of steel production. Here (page 600) he strikes out for a better way—just as years ago his Making Steel and Killing Men was a harbinger of safety engineering and workmen's compensation laws. Consulting engineer in Management in Philadelphia, MR. COOKE was director of the Giant Power Commission of Pennsylvania and is a member of the Power Authority of the State of New York (page 607).

After study and research in economic geography, foreign trade, world politics and economic geology here and abroad, MR. FREY (page 612) is now chief of the Petroleum Section of the Bureau of Foreign and Domestic Commerce in Washington. MR. CHAMBERLAIN is a member of the board of Survey Associates, professor of public law at Columbia University and director of the Legislative Drafting Research Fund (page 616). Director of industrial studies for the Russell Sage Foundation, MISS VAN KLEECK (page 618) is vice-chairman of the International Industrial Relations Association, which called the World Social Economic Congress at Amsterdam last summer. MR. NEURATH, director of the Social Economic Museum in Vienna (page 621), has recently been called to Moscow to introduce the system of graphic representation that has beaten a pathway to his door.

This special number has been a cooperative enterprise. We are indebted to Miss van Kleeck and Mrs. Brenner for its inception a year ago, and to Lucius R. Eastman, president of Survey Associates, who arranged an all-day conference last spring at which plans were laid. The editor acknowledges the collaboration of the entire board and staff and especially of three associates—Beulah Amidon, his colleague in handling the project throughout, Florence Loeb Kellogg, in illustrating and Helen Mears in producing the number. The Hard inquiry was made possible by our Cabot Fund; and the caliber of the number itself by contributions of ideas, work, manuscripts and money.



Courtesy Museum of Modern Art, New York

FROZEN ASSETS BY DIEGO RIVERA

The strata of our industrial civilization as seen by the great Mexican painter: skyscrapers, flophouse and bank vault

THE SURVEY

GRAPHIC NUMBER

MARCH 1
1932

Volume LXVII
No. 11

When We Choose to Plan

WE have thought of this special number as a mooring-mast such as cities set up to invite Zeppelins down to earth. To many an American, national planning has seemed a balloon-like idea, a Russian invention or a puffed out theory, its proponents as crazy as ur grandfathers thought Darius Green and his flying-mahine. But a generation that licks air-mail stamps as matters f course is rightly curious as to a scheme of social-economic evitation that might help get us out of the mud and keep us ut. So we have tried to see what the planning idea looks ke against the American landscape—littered these three inters running with foundered vehicles of an older order.

Now at the world conference on planning last summer n Amsterdam, Russian economists met for the first time ith their contemporaries from otherwheres. Six Soviet xperts put forward their six best feet. As the discussion ent forward we were all very much impressed with their ractical grasp and collective zeal; and there was no dodging he fact that theirs was a country not scotched by unemployent. But they left us with two horns of a dilemma. "You an't plan and control production," they said, "without ommon ownership and without the elimination of private rofit." "You can't do it without sacrificing liberty and nitiative," protested political idealists of another stamp.

SO our number starts with Chase—to whom planning offers hope for recapturing control over our own lives; nd with Lorwin, who assures us that "planning may start t the point where we are today." It was Lorwin who oiced the hope of the Westerners at Amsterdam. Here e sets forth how planning, both philosophically and pracically, can be made at home in the United States; and here, s a beginning, Lubin exhibits the dishevelment to which ack of planning has brought us and interprets the LaFollette ill for a National Economic Council. This provides for new order of research and—for research for a new order infar as it lays down an experimental framework for conerting plans and action, industry by industry. Meanwhile n a recent referendum the United States Chamber of Comnerce has by overwhelming vote adopted the Harriman eport which looks to private initiative for such a set-up. There is a common organic principle in both projects which may afford ground for rapprochement; they divide in their approaches and objectives and especially—by implication—in their fears. Clearly, planning has been employed as an implement for Communism in revolutionary Russia; it might here; equally clearly it might here or elsewhere become a Frankenstein—a huge mechanism of corporate control in a land of deflated citizenship. Questions of purpose and motivation are sharply raised by many of our contributors. For the most part they break with precedents and proposals for restricting production to market demand. They would start at the other end—how to enhance consumption. They would work toward another goal—how to fortify and raise our standards of living. And begin—by ending unemployment.

THREE articles give the thrust of creative imagination, up from our new world experience. Scientific management comes forward with its techniques through Person; business enterprise offers its Swope plan (appraised by Bruère); labor, the constructive leadership of Hillman.

The planning idea is next brought down to four great segments of American industry. Kendall shows its thwarted first steps in textiles; Lindeman, its application to the installation of dial telephones; Hard casts his lance at the old habit-pattern of production for market in steel; and Cooke flood-lights an electrical future when the rank and file of consumers come into their own.

This brings us to certain basic considerations—the natural resources which must buttress our planning (Frey); the legal fabric through which we must find our way (Chamberlain); and that security for livelihood (Miss van Kleeck) which is bound up in regularization of employment and which must be conserved if democracy is to keep its footholds.

Neurath spreads our horizons, and sets our American situation off against a world in want, which has yet to organize the strength of the earth for the use of men. And in a curtain call, Miss Amidon's imagery of pioneer days suggests the question that has come to all of us in handling this piece of editorial exploration: In some new and modern incarnation, can the old American dream of opportunity for all become the goal of American planning? Nothing less universal than that can supply it with a motor; nothing short of an urge that sweeps us into a common adventure will make it go.

P. U. K.

You and I and the Big Idea

By STUART CHASE

A NUMBER of people are desirous of crossing the ocean. Indeed they must cross. Among them are many talented technicians but no chief engineer.

Everybody sets to work to provide the necessary transportation. One group secures a stout wooden hull and patches it, not very evenly, with heavy steel plates. Another group prepares a monstrous great engine of the very latest design and thermal efficiency. Another puts on a cute little propeller, 1880 model. Another works with enthusiasm on a huge steam siren. Another group installs the pumps according to secret formula; another wires the ship with eighty-seven searchlights, all complete. The group providing the fuel hesitates between coal, oil and wood, ultimately deciding to take aboard all three. Most of it is subsequently thrown overboard. The mast brigade erects the tallest spar known in marine history equipped with a hoisting device for the elevation and wonder of the passengers. The charge per elevation is one dollar.

The culinary division specializes pretty heavily on caviar and champagne, but has more cereals aboard than it knows what to do with. The stateroom division specializes in suites de luxe, but takes justifiable pride in a bathroom and an electric refrigerator every ten feet. There is an elegant swimming pool, but not enough bunks.

Nobody remembers the life boats.

The expedition has a political leader, but no technical captain and staff, no bridge, no conning tower, no signal system to the engine room, no organized tricks at the wheel. The purser and his men occasionally give the latter a twirl, but mostly they are too busy selling tickets at the mast head. The political leader devotes himself to shaking hands with the passengers and chucking babies under the chin.

As the ship leaves the dock, the several groups groom their several specialties with the utmost enthusiasm. The efficiency of any one group is frequently incredible. The engine whirls magnificently, indeed so magnificently that the poor little propeller breaks a blade. The siren brigade lets off such a blast that, like Mark Twain's Mississippi river steamboat, it stops the engine. The pumps revolve madly with nothing as yet to work upon. The searchlights —though it is still broad day—get the jump on the electric ranges, and the cooks have no means of warming the soup. As no course has been set the rudder drifts where it will. Occasional collisions with harbor traffic are unavoidable.

Once and again, for a few blissful hours, the several crews purely by accident so regulate their specialties that a rough correlation is achieved, and a little headway made. Sometimes there is almost enough hot soup to go around, and all the passengers congratulate themselves on their progress. The political leader delivers a stirring address in the main saloon, prophesying bunks and soup for everybody, smiling seas and a record passage. The travelers emerge on deck, and in a frenzy of optimism, all try to mount the mast at once. Dollar tickets are bid up to five dollars, ten dollars. One great-hearted fellow orders the swimming pool to be filled with champagne.

At this point, alas, the stokers so furiously ply the boile with inappropriate fuels that the crank-shaft snaps. Pa sengers are shaken from the masthead and some of the seriously injured. Presently—and inevitably—all the crew are out of step again. At the moment the ship is revolvin in circles with a nasty gale coming on.

IF my analogy is a fair one, the answer is as evident t you as it is to me. A planless national economy if it to avoid disaster must give way to a planned economy. Th ship must be docked and redesigned. It must be recon structed according to a unified engineering scheme, which mindful of the number of passengers to be carried, and th proper relationship of fuel to engine to propeller to pump to siren to galley ranges to power requirements generally It is only too obvious, furthermore, that an intelligent marin engineer cannot allow a siren so loud as this one, a mast s high, or a searchlight battery so dazzling. The ship aft all has to cross the ocean. For that it needs a good pro peller far more than ballyhoo. Also, it demands a connin tower, a trained technical staff and a good seaman at th wheel, far more than speeches in the main saloon.

If we are going to have a mechanical civilization—an we have so elected—we have got to control it. It canno be allowed to drift aimlessly without ultimately wreckin us. A handicraft culture needs neither design nor technic operation; its economic security is guaranteed, save for ac of God, by food and shelter from its neighboring fields. Bu a great sprawling machine culture, where a million cog wheels must mesh if food is to be forthcoming, must, in m opinion, either plan or some day go to smash.

The billion wild horses of mechanical power have brough us certain manifest assets, and promise us, if they can tamed, many more. These assets include:

HIGHER LIVING STANDARDS.
SHORTER WORKING HOURS.
A DECLINE IN HARD, SLOGGING PHYSICAL LABOR.
BETTER PHYSICAL HEALTH. GREATER LONGEVITY.
A FALLING BIRTHRATE. LOWER INFANT MORTALITY.
LESS SUPERSTITION. AN INCREASE IN SCIENTIFIC ATTITUD
LESS PHYSICAL CRUELTY than in the handicraft age.
LESS FEAR AND HATRED OF THE ALIEN, as the engines transportation and communication knit the world more close

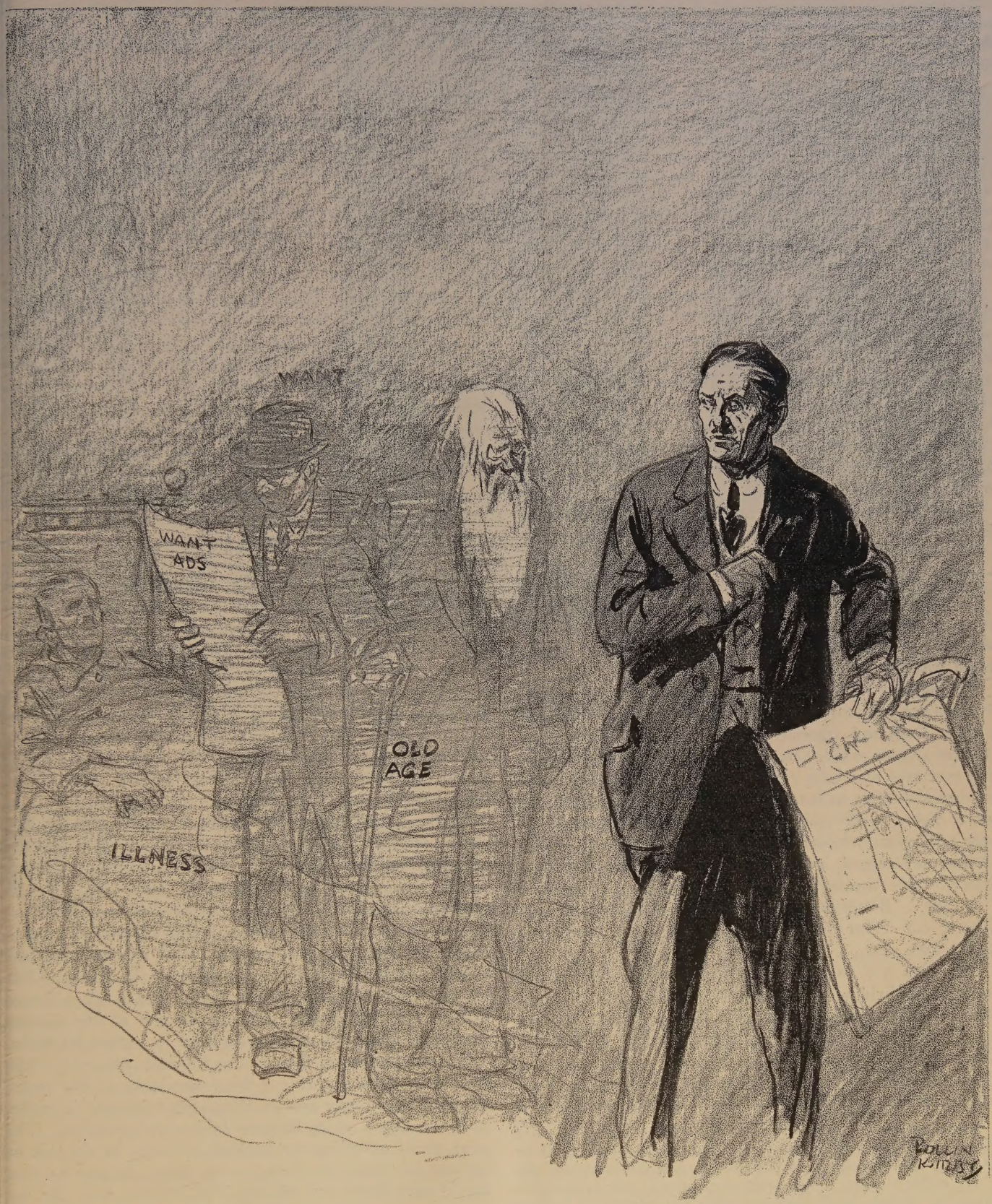
These assets form an impressive beginning, but the prese depression, a phenomenon impossible in a handicraft societ hardly allows us to rest on our laurels. The liabilities a equally imposing, and at the moment the world balance in the red. Regard the schedule, and measure its total in pact against that of the assets:

MECHANIZED WARFARE, which gave us a red balance in 19 and promises neatly to end Western civilization in the ne world conflict, the airplane and the gas bomb providing t terminal facilities.

THE FANTASTIC WASTE OF OUR NATURAL RESOURCES d to uncorrelated machine production.

SOCIAL STANDARDIZATION. The dreariness of Main Street.

THE TEMPO OF MODERN LIVING. Fifty per cent of all ho pital beds are occupied by persons suffering from nervous d



GHOSTS BY ROLLIN KIRBY

eases. While our physical health, particularly in the case of children, improves, our mental health, particularly in the care of adult workers, declines. Under this head, too, comes the shambles the motor car makes of our highways, killing 35,000 and wounding more than a million a year.

The New Illiteracy. The increasing ignorance of the consumer in the face of forced draft salesmanship. The inordinate productivity of the uncontrolled machine is directly responsible for the forced draft.

The Lost Art of Play. Most people over thirty take their recreation sitting down—at second and third hand. The favorite play form of American children is the funny paper. Mechanization and commercialization make a mockery of leisure.

The Flesh and Blood Robot in Industry.

TECHNOLOGICAL UNEMPLOYMENT. A total firing rate which promises to exceed the total hiring rate, due to the march of the machine. The violence of this liability is unaffected by periods of so-called prosperity.

THE OVER-SPECIALIZATION OF LABOR AND OF PRODUCTION which the machine age has brought. Uncorrelated, highly specialized economic activity has led to the downs of the business cycle, overproduction, cyclical unemployment (which we suffer from chiefly today), the scandalous neglect of agriculture as against industry in the last generation, the failure of the credit structure to keep up with the engineer; we cannot buy back what we can so readily make. Too much wheat and not enough bread; too many shoe factories and not enough shoes. Today this liability leads to collapsing banks, breadlines, malnutrition, starvation and the very real threat of mob violence.

Behind the shoulder of nearly every man and woman in the Republic stand the ghosts of economic insecurity. Day and night they whisper: "How long is your job to last? What is going to happen to you in your old age? When will a machine or a merger displace you? When will your bank fail? How long will your income be forthcoming? How can you further abase yourself to hold your position?" A handicraft people have ghosts galore, but not these ghosts. Perhaps they are the most terrible ghosts that have ever wracked mankind.

The liabilities stand ready to crush the assets altogether, failing an early reconstruction of the economic ship.

THE bulk of the liability schedule can be liquidated through economic planning within our own frontiers, but one, perhaps the most threatening of all can be stopped only by world planning and agreement. I refer to mechanized warfare.

To redesign the ship, to cast a society primarily acquisitive into one primarily functional, will never be accomplished without fresh and vigorous thought, and the abandonment of many slogans which now pass for thought. The corporation executive who calls most loudly for less government in business is the first to board a train for Washington shouting for a higher tariff—the most sublime interference of the state with trade which the modern world knows. To such phrases as "rugged individualism," "the octopus of Wall Street," "free competition," "less government in business," "the dole," "Bolshevism" the reaction, on the part of millions of our fellow citizens, is as automatic and unthinking as the knee jerk.

Yet what is it (to split one of these slogans open) that is crucifying individualism, in its best sense, today? It is that same ghost of economic insecurity which turns us into yes men by the army corps. It is important that we see just how many of our personal aches and problems come from the chaotic organization of the ship we sail in. Let us go back to the machine age liabilities and put them in personal terms:

Every one of us may expect his own life to be vastly more disorganized in the next war than it was in the last, even if he does not lose it entirely by poison gas dropped from the air.

We suffer already in high prices for coal and gas, in droughts caused by reckless lumbering, and when the reserves of natural resources drop still lower, we shall suffer more.

We are enervated and bored by the deadly sameness of our towns and our society.

Our nerves are strained by noise and speed, and our safety menaced whenever we drive or walk on a motor road.

Every day we are high-pressured by salesmen and advertisers, who often succeed in misleading if not cheating us.

Our very amusements grow staler from being commercialized. We cannot play as we used to.

Many of us are deadened by meaningless jobs. If we work in factories we may go mad screwing the same bolt a thousand times a day.

We are constantly losing our jobs to mergers, machines, stop watches, new chemicals.

We have no security left—for employment, for our old age, even for our savings.

All of these ailments which hurt you and me, either now or presently, come directly or indirectly from a hit and miss economy, and could be greatly alleviated, if not cured, by intelligent planning. You and I have a large stake in that planning; every man and woman in the country has a stake. For some of us it is a life or death matter, if we only knew it.

IF we really want to meet the challenge we are peculiarly fortunate in the United States—as against England, for instance. We can feed ourselves from our own soil. We have the natural resources, despite their shocking waste to date, we have the skilled engineers, the magnificent technical plant, the laboratories, the research bureaus; above all the able and vital population, to work out a national plan for a safe and prosperous journey into the future. We have another potential aid, which very few have realized: the *economy of abundance,* the clear potentiality of high living standards for everybody. Previous ages have ever lived in an economy of scarcity, with population straining against the food supply. Privileged classes in earlier ages, on the principle of self-preservation, have fought savagely for the maintenance of the status quo. Only bloody revolutions have dislodged them. Today, with more than enough to go around, their opposition, while we may expect it to be bitter, has no such logical foundation. The volume of goods thrown off by a planned society would be sufficient to keep them at the luxury level to which all but their sublimest ornaments have been accustomed, and still supply abundance for the wayfaring man. Psychologically, of course, the point is not so clear. The privileged classes may prefer to wreck the mechanism rather than give up the relative grandeur of super-conspicuous consumption.

Until a plan is made we cannot do most of the things which individual Russians, for instance, can do in accomplishing their Five-Year Plan. Even when the blueprint is before us, our part will not be like theirs—to strain every nerve to produce more goods. We are menaced with overproduction as it is. We can not go around salvaging rags and old metal, presenting peasants with hens, or even scouting out new mineral deposits, like the young Pioneers of Russia. But we can school ourselves personally to face a sober future without the easy profits and easy escapes of the pioneer psychology which has so long survived its excuse for being.

For our pioneering days in this Republic are over. The frontier has been reached and the stream backs up. No longer can we bid the young man go West; spear carrying in Hollywood is a career which becomes daily more precarious. The great era of something for nothing, of living by the luck of our natural resources, draws to its close. It may be that the Florida Boom and the Big Bull Market were the last two joy-rides of an age that has passed. Or, we may have one more rocket of speculation before the final reckoning.

I do not know. I do know that slogans can no longer carry us. We have got to begin to think. We have got to discard a lot of mental lumber if we want to run this ship, and prevent the liabilities from overwhelming the assets altogether—if we want to prevent an epoch, inaugurated by James Watt, capable, under functional control, of showering mankind with blessings, from ending.

Soyuz photo

Wide World

Underwood

They point out three approaches to national problems: left, Lenin, founder of Soviet Russia; right, Mussolini, fascist leader of the all-powerful state, and, center, symbol of liberty and democracy

The American Front

By LEWIS L. LORWIN

WE in the United States have so over-emphasized the value of change for the sake of change, of acceleration for the sake of acceleration, that we seem to find ourselves either driven breathlessly ahead, or dropped in the ditch. Under such a planless economy as ours has been, where the factors of change are many and the resultants are the effects of innumerable individual choices and decisions, change seems destined to increase without a corresponding increase in our capacity to foresee or forecast.

Planning offers us an opportunity to control the rate of economic and social change. But this does not mean that it is a device to contract energy or limit outlook.

On the contrary, philosophically and morally, planning is an appeal for an expansion of spirit, for a greater faith in the future and in the possibilities of life. It is a call to us to shape consciously our personal development, our cities, our leisure, our cultural progress, our capacity for action and for harmonious adjustment. It is a synthesis of the ideas of dynamics and order, of science and imagination, which hold out to the twentieth century the promise of a great purposive achievement. It is a phase of a new mode of feeling life and of living.

One must view the narrower, though basic problem of economic planning in this wider perspective. For the character of a planned economy is determined by the larger purpose of the social plan with which it is combined and which supplies its driving power.

Therefore we may have different types of planning, depending both upon the goals in view and upon the institutions devised or proposed for achieving them. Broadly, one may distinguish:

1. The absolute socialist type.
2. The partial state socialist type exemplified by Soviet Russia.
3. The fascist type foreshadowed in Italy.
4. The business type, which is being urged in the United States and elsewhere by industrialists and financiers.
5. The social progressive type, which is the subject of my interest and of this article, and which, building on the traditions and institutions of democracy, offers us new concepts of the means and ends of economic life, and new methods of promoting a steady growth in standards of living.

It will help us in understanding the portent of these varying types first to engage in some elementary definitions.

A planned economy may, in general terms, be defined as a scheme of economic organization in which individual and separate plants, enterprises, and industries are treated as coordinated units of one single system for the purpose of utilizing all available resources to achieve the maximum satisfaction of the people's needs within a given time. The essential features are: the interdependence of all productive units, the adjustment of a progressively growing productive mechanism with a progressively rising standard of living, and the

existence of some unifying center to direct the system consciously towards these nationally recognized objectives.

The contrast between this and our present economic method may best be brought out by reference to the process of adjusting supply and demand. Under present conditions, supply is determined by a number of units—smaller or larger—operating independently of one another, measuring and anticipating effective market demand on the basis of prices which will assure maximum individual or corporate profits over relatively short periods of time. Economic planning produces new terms in relation both to supply and demand. It aims at maximum possible real demand or the actual need of a community at a given time and at given levels of national economy. The concept of real need implies a compromise between what the people would like to have and what they can afford in a given state of the industrial arts, costs being what they are. In relation to supply, it contemplates the advance determination of output to meet the real demand insofar as is possible on the basis of rationally used maximum capacity. In other words, the equation between supply and demand under economic planning becomes an equation between maximum capacity and maximum real need achieved through direct and conscious control.

This leads to modification of another basic economic process. Consider price as we follow it from the decentralized industries where competition still holds, through industries where a few large corporations practically fix prices —though with an eye to possible competition, to industries where monopolistic prices prevail or to areas of industrial life where price is regulated by public authority. We find that prices, determining profit margins, are the mechanism through which the adjustment of supply and demand is made and the flow of capital directed.

But under economic planning, prices would serve primarily to effect the transfer of goods from producer to consumer, and they are subject to the control made necessary by the general purpose of balancing capacity and need. They are fixed not on the basis of the relation between supply and effective demand, but on the basis of costs plus whatever surplus may be needed to carry out the larger social purpose.

Economic planning obviously differs from laissez-faire and from regulated corporate capitalism in respect also to economic guidance. Instead of allowing each enterprise to be a law unto itself, planning requires all units to think in terms of a general economic purpose. Instead of trying to control the operations of corporations largely by negative and disrelated rules, planning calls for a positive and interrelated system of functions and objectives clearly conceived and carried out.

Economic planning is further to be distinguished from technical and industrial planning and from rationalization. Technical planning is another name for scientific management within individual plants and enterprises. It is a subordinate aspect of economic planning, supplying the necessary methods for efficient production within each economic unit. Industrial planning limits itself to coordinating supply and demand within one specialized field of economic activity. Such planning can make provision for the limitation of conflict between different industries only as it is related to a general plan of all economic activity.

Taking it in its largest sense, rationalization implies a wide application of scientific methods to industrial organization and such a relationship between producers as to enable them to apply these methods not only within single plants but in a group of plants or in an entire industry. This generally has meant the fostering of vertical and horizontal combinations for the purpose of repressing competition and of controlling output, market and prices. Spokesmen of rationalization have claimed that it means in the long run the "right organization" of industry with low prices, high wages, and mass prosperity. Rationalization has often worked in this direction but it has more often tended to maintain levels of prices out of relation to decreasing costs of production. Rationalization leaves the question of the coordination of different industries unanswered. It is a step in the direction of planning by industries which is but one element in a system of economic planning.

TO sum up, economic planning is essentially a new method of coordinating and balancing production and distribution. Instead of leaving such coordination to exchange processes and to the operation of prices and profits, it exercises a rational and unified guidance in adjusting available capacity to real need. It is clear that economic planning in itself does not answer all technical questions of economic life. The economic problems of balancing wants against wants, of finding the best and most efficient schemes and techniques for utilizing natural resources, developing incentives to work, stimulating the discovery of new knowledge and the application of science to economic life remain to be solved by special devices. Nor, do we believe, can economic planning *per se* supply rules as to the optimum size of a plant, the best regional organization of industry, the relative merits of large and small farms, the proper relation between agriculture and industry, the most effective policies in finance.

"The laissez-faire of the nineteenth century was based on a metaphysics of the providential guidance of natural law. The planning of the twentieth century rests on a philosophical faith in the power of man to provide orderly economic and social change through research and constructive imagination."

In addition to these technical determinants the character and purpose of a planned economy depend on the objectives which are the function of social planning in the wider sense of the term. There is a close interrelation there, for economic planning can become a conscious method of operation only when used in connection with a clear plan of social purpose and development, and when it operates through mechanisms and institutions which promote its fundamental principle—the conscious coordination of expanding productive resources to advancing levels of living for all the people.

As a method, economic planning necessarily affects social purpose and organization, but it lends itself to various social uses and institutional forms. If economic planning implied that it could be combined only with one social plan or one scheme of institutions, there could be but one kind of economic planning. That this is not inherent in the idea is evidenced by the developments in Soviet Russia and by current proposals in other countries.

We are now ready to consider separately the five types of economic planning I have distinguished:

I. Absolute Socialist Planning

AT the extreme end of the scale is what may be called absolute socialist planning. This implies a centralized system of economic and social life in which production, consumption, standards of living, and all economic processes are subject to a unified central control and are directly determined. Such a scheme must rest on a more or less equalitarian mode of living, social ownership of all the means of production and close supervision by the central authority. In a word it is the traditional socialist ideal which, in a variety of forms, has been advocated for a hundred years and which still remains the vision of many socialists.

It need not be emphasized here that no country is in a position at present to contemplate this type of planning as a practical possibility. In fact it is likely to be discarded even as a mode of thought as we come to have more actual experience with planning, as the framework of our current economic life.

"Planning is not a device to contract energy or limit outlook. It is an appeal for an expansion of spirit, a synthesis of the ideas of dynamics and order, of science and imagination which holds out the promise of a great purposive achievement."

II. Soviet Planning

THE second type is the system of economic planning of the U.S.S.R. which may be called partial state socialist planning. This type does not involve the direct fixing of wants or of consumption. The latter are determined indirectly through the process of production and through the decisions of planning authorities to produce one thing and not another. The consumer in Soviet Russia has considerable freedom in determining the manner in which he wants to spend his income, his desires being limited more by the shortage of goods than by decrees or regulations of the authorities.

Not only is consumption not planned in Russia, but not all production is subject to planning. There are independent small enterprises which are not included in the general planning system and there are large numbers of individual peasants who carry on agriculture in their own free way. The collectivization movement has not as yet brought agriculture under the planning system as fully as industry.

Soviet economic planning at present is thus primarily a system of production budgeting, which views the entire productive equipment of the country as a unit to be used for developmental purposes determined by the government. This is by all odds one of the biggest tasks of management and direction anywhere in the world today. Thousands of factories in a variety of industries covering almost the entire range of modern industrial activity are directed on the basis of a single financial plan by the Supreme Council of National Economy, aided by many local agencies, and coordinated with a complex net-work of such institutions as the State Planning Commission, the State Bank, the syndicates or combinations, the consumers' cooperatives, and the various commissariats. Through these, the Council of Economy directs the plans and performance of the individual plants, distributes credit facilities, fixes prices, limits the profits of the trusts, and redistributes the supply of skilled and unskilled labor.

The dominant features of the Soviet system, the reduction of private property to a minimum, the social ownership of means of production, the elimination of private profit, and the concentration of political power in the hands of a class government guided by the Communist party shape the institutional procedures of Soviet planning in many ways. They help to give the Supreme Council of National Economy its wide range of powers. They supply the tests of rationalization or efficiency which must include not only costs of production, quality of product, rapidity of capital turnover, but also improvement in the social and economic condition of the workers. They determine the efforts to evolve collective incentives for work by means of such devices as socialist emulation, production conferences, medals to the heroes of labor, and so on.

In evaluating the Soviet planning system, one must bear in mind that some of its features are the result of historic conditions and therefore are not inherently determinative. Soviet Russia's very undeveloped economic position supplies the objective of rapid industrialization which simplifies and facilitates its planning problem. The low standard of living of the Russian population and the reaching out for higher standards create an enormous potential market which simplifies in some measure the problem of adjusting supply and demand. There is no fear of overproduction, and there won't be for many years to come. The fact that Russia has come to planning through a revolution which is modifying habits and ways of thinking makes the people more susceptible to change and to large schemes. And the system of class dictatorship upon which the Soviet constitution is based facilitates the utilization of economic sources, though there is greater flexibility and freedom in Soviet planning than is usually admitted by foreign observers.

III. Fascist Planning

THE fascist type of economic planning is based upon the ideas of the corporate state and of the supremacy of the national good. Fascism insists on the superiority of the nation over individuals, asserts the political and economic unity of the state and the legal equality between employers and workers, and assumes the national character of all private production. From the fascist point of view, private property and initiative are justified because they are presumably the most effective methods for the promotion of national interests. Production remains, none the less, a national function and responsible to the state and subject to control and state guidance. The ideas of fascist planning are now being worked out in Italy and in some degree among the German nationalists.

The practice, however, is still in its infancy. Italy has laid the foundations of economic fascism through the creation of syndicates and corporations, and it has applied controls in a partial way in agriculture, the electrical industry and banking. But Italy has yet to take the decisive step towards a planned corporate economy. (*Continued on page* 636)

Fresco made for the exhibition at the Museum of Modern Art

PNEUMATIC DRILLING BY DIEGO RIVERA

When the Mexican artist looked up he saw our skyscrapers; when he looked down, the workers at our foundations

The New Lead from Capitol Hill

By ISADOR LUBIN

THEN the subcommittee of the Senate Committee on Manufactures recently voted favorably on S. 2390, the question of national economic planning in the United States left the realm of theoretical discussion and became an issue of practical politics. The bill would establish a National Economic Council with specific powers for fact-finding and recommendation. Not only is thus an important first step but in its approach to the means for controlling industrial fluctuations, it breaks away from the stereotyped idea of restricted production in the direction of enhanced consumption. The measure has therefore within it the seeds of a radical change in our economic attitudes and procedures.

The genesis of the bill goes back to the closing days of the Seventy-First Congress whose demise last spring American business awaited with bated breath so that "industry might be freed of the fears of further legislative action and once more be allowed to solve its own problems." It was then that Senator LaFollette submitted a bill (S. 6215) proposing a national economic council and secured the passage of a Senate resolution authorizing the Committee on Manufactures of which he was chairman to hold hearings after adjournment.[1]

The council, with powers of subpoena and research, was to be composed of fifteen members to be appointed by the President and approved by the Senate from lists "submitted by groups of associations and organizations representing the industrial, financial, agricultural, transportation, and labor interests of the United States." Its functions were to:

(1) keep advised with respect to general economic and business conditions in the United States; (2) consider problems affecting the economic situation of the United States and its citizens; (3) endeavor to formulate proposals looking to the solution of such problems; (4) make reports to the Congress, together with recommendations for necessary legislation and for other action; (5) from time to time as it deems advisable, submit reports dealing with particular economic questions, together with its recommendations, to the President, to the Congress, and to the appropriate economic associations and organizations interested in such questions.

Nine months were available before the new Congress to mobilize witnesses and take testimony. Various economists were consulted as to the type of evidence that should be collected. It was agreed that the primary question to be answered was: How far could an economic council be effective in preventing or ameliorating future industrial depressions? American business, it was evident, had been thinking primarily in terms of restricting output as the means for stabilizing American industry. That is the coming-out place not only of the widely accepted Swope Plan but of the report of the Committee on the Continuity of Business and Employment of the Chamber of Commerce of the United States. Senator LaFollette and his advisors, however, were interested in knowing whether the emphasis should not be shifted: Could the consumptive power of our citizens be raised to the point where it would equal our productive capacity? And, if so, how could we make a beginning?

The list of witnesses as finally drawn up included outstanding bankers, industrialists, engineers, economists, statisticians, trade-association executives and labor leaders. The hearings were not to be merely opportunities for them to read prepared statements for the edification of the press. What the Committee wanted was information. Considerable time, therefore, was devoted to assembling material bearing upon the history and experience of the invited witnesses. By a study of their public utterances and writings light was thrown on their fundamental attitudes toward industrial and social problems. When finally they appeared before the Committee each session began with a carefully worked out program of questions for the day's examination.

IN determining the need for economic planning a factual picture was needed of the economic trends before and during the business slump. This task was assigned to E. A. Goldenweiser, director of the most important of the official economic and statistical organizations in Washington—the Division of Research and Statistics of the Federal Research Board—and to Laurence H. Sloan, vice-president of the largest and most widely known private institution gathering and publishing business and financial information — the Standard Statistics Company.

Dr. Goldenweiser portrayed in statistical form for the decade 1920-29 the course of industrial production, building construction, factory employment, factory payrolls, freight-car loadings, railroad income, railroad employment, security issues, interest rates, bankers' loans, bank failures, currency circulation, gold reserves, wholesale prices, retail sales, exports, imports, foreign investments, and in-

S. 2390 is an outcrop of the hard times and the imaginative leadership of the senator whose name it bears, Robert M. LaFollette, Jr., of Wisconsin. It crystallizes the idea of an economic council in terms of legislative provision. It is the result of hearings which brought together bankers, industrialists, economists, labor leaders and engineers who were less called in as a coroner's jury on the remains of our recent prosperity than as a fruitful source of experience and ideas bearing on a new and affirmative lead. The procedure by which it was framed is a fascinating exhibit of a new type of group thinking and statesmanship. And this, so far as we know, is the first time the story has been told as a whole —by an economist who was in it at every stage.

[1] The other members of the subcommittee charged with this task were Senator H. D. Hatfield of West Virginia and Senator Morris Sheppard of Texas.

ternational gold movements. He showed the ups and downs of these years—first the abrupt fall in industrial production in 1920 and 1921 (a decline of 31 per cent from the preceding high point); next a 67 per cent increase between April 1921 and April 1923 following upon a $1,400,000,000 expansion of the construction industry, and the rapid growth in the use of automobiles. Then came in quick succession a 21 per cent slump in early 1924 and the rise of 1925, occasioned by the easy-money policy of the Federal Reserve System and the bumper agricultural crop at the time of a foreign wheat shortage. Next the recession of 1927; followed by the rapid expansion of the next two years which culminated in May 1929 in an industrial output surpassing by 15 per cent the highest point thus far attained in our history.

During the next two years industrial output fell over 40 per cent. Accompanying this decline came a 30 per cent drop in factory employment and a 45 per cent decrease in factory payrolls. As compared with August 1929, he showed that the wage loss to factory workers for the single month of September 1931 amounted to more than $445,000,000.

Commenting on the fact that production started downward several months before the stock-market crash in the fall of 1929, Dr. Goldenweiser said:

> I think, broadly speaking, that this particular decline was largely a matter of having reached the limit of consumptive power at the existing level of prices. . . . It was a very clear case of supply outrunning the demand . . . and the stock-market decline was an accelerating factor rather than an initial factor.

One of the most significant and least generally known facts pointed out by Dr. Goldenweiser was the marked decline in residential building which started more than a year before the depression began. This foreshadowing of the future, however, had no effect on our industrial tempo. We continued on our expanding way. In 1928, according to Dr. Goldenweiser's testimony, the American public absorbed new security issues to the amount of $6,080,000,000. In 1929, we absorbed an additional $8,640,000,000. Hand in hand went also an increase in bank borrowings, the loans made by member banks of the Federal Reserve System rising by $1,355,000,000 between June 1928 and June 1929.

With the crash came the most spectacular fall of prices ever witnessed in recorded history. Starting from an index level of 98 in June 1929, wholesale prices fell to 69 in the autumn of 1931. The output of the farmer which yielded him an average of $1.40 in March 1929 brought him 72 cents two and a half years later.

The nation's banking system soon found its portfolios laden with uncollectable commercial paper and depreciated securities. Bank failures became the order of the day. In 1930 there were 1345 with deposits of $865,000,000 as contrasted with 501 with deposits of $196,000,000 in the depression year 1921.

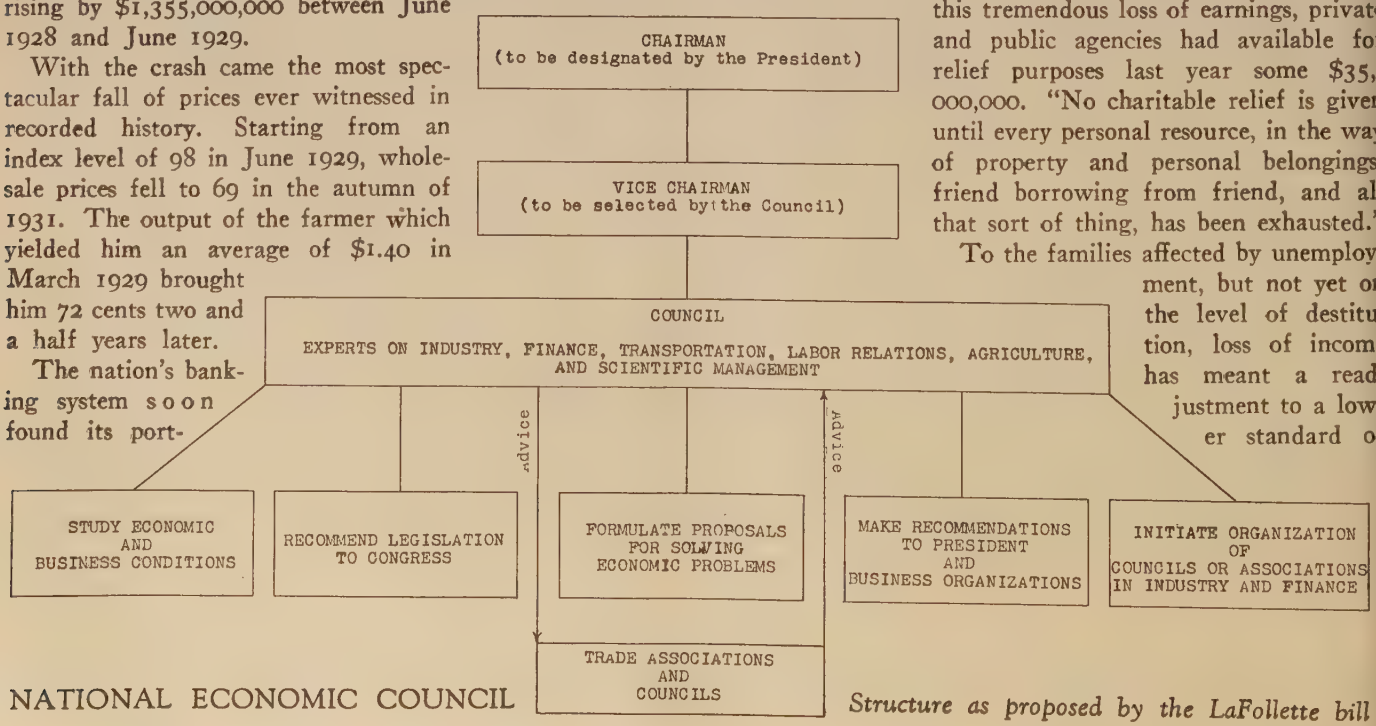
Depositors throughout the country took fright and suspensions continued. Funds were removed from banks and put elsewhere for safekeeping with, Dr. Goldenweiser estimated, the consequent hoarding of approximately $1,000,000,000 out of a total outstanding circulation of $5,000,000,000.

The havoc wrought by falling prices and by the curtailed incomes of the agricultural and laboring classes was portrayed by Mr. Sloan in his analysis of corporate earnings. The net income of 550 of our largest industrial corporations, which in 1929 amounted to $3,458,000,000, fell in 1931 to an estimated figure of $1,105,000,000, a decline of 68 per cent. In the same two years twenty-six railroads suffered a drop of $466,000,000, or 72 per cent, in their earnings.

What all this has meant to the investor was well illustrated by Mr. Sloan's data on security values. Common stocks which had risen from an index number of 100 in 1926 to 228 in September 1929 fell to an index number of 80; that is, to one third of the peak. Outstanding bonds, he estimated, had declined in value by more than $3,000,000,000 within three years. In addition, bonds valued at $1,023,000,000 had defaulted on interest payments during the first nine months of 1931, representing a sixfold increase in defaults within two years. Over $400,000,000 of these defaults represented the bonds of industrial corporations.

THE economic breakdown as portrayed by the statisticians was translated into terms of human well being by Frances Perkins, industrial commissioner of the State of New York. To the 1,500,000 totally unemployed and the millions of part-time workers in her state the past two years of depression have caused a wage loss, she said, of more than $1,600,000,000. To cope with the suffering occasioned by this tremendous loss of earnings, private and public agencies had available for relief purposes last year some $35,000,000. "No charitable relief is given until every personal resource, in the way of property and personal belongings, friend borrowing from friend, and all that sort of thing, has been exhausted."

To the families affected by unemployment, but not yet on the level of destitution, loss of income has meant a readjustment to a lower standard of


CHAIRMAN
(to be designated by the President)
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(to be selected by the Council)
COUNCIL
EXPERTS ON INDUSTRY, FINANCE, TRANSPORTATION, LABOR RELATIONS, AGRICULTURE, AND SCIENTIFIC MANAGEMENT
advice
advice
STUDY ECONOMIC AND BUSINESS CONDITIONS
RECOMMEND LEGISLATION TO CONGRESS
FORMULATE PROPOSALS FOR SOLVING ECONOMIC PROBLEMS
MAKE RECOMMENDATIONS TO PRESIDENT AND BUSINESS ORGANIZATIONS
INITIATE ORGANIZATION OF COUNCILS OR ASSOCIATIONS IN INDUSTRY AND FINANCE
TRADE ASSOCIATIONS AND COUNCILS

NATIONAL ECONOMIC COUNCIL *Structure as proposed by the LaFollette bill*

iving with ensuing malnutrition and depletion of health, 'a result which we will not fully understand until several 'ears have passed and after the crisis is all over." In Manhattan, according to Miss Perkins,

. . old, worn out, dirty, dark room tenements, which a few 'ears ago had been practically abandoned, have now come back nto a period of prosperity. The people who had moved out nto the Bronx and other sections of New York City, into ewer parts of the town, are now finding their way back to he old-law tenements. . . . Two or three families crowd into our- or five-room apartments. That, of course, has always ad in the past very undesirable social results.

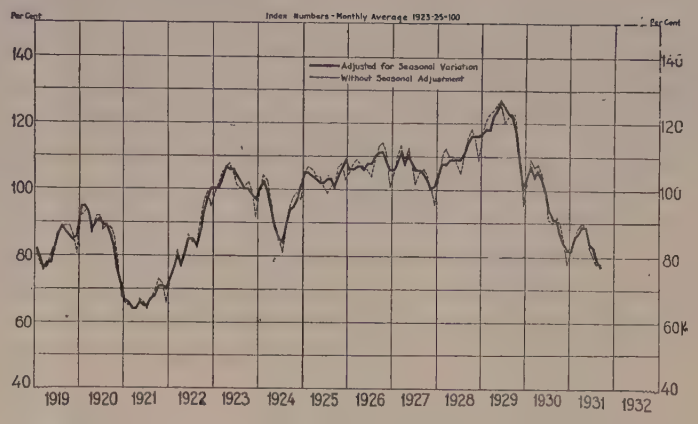
Here was a picture of sudden economic and social disinegration. Could anything be done to prevent its recurring n the future?

The task of answering this question was assigned first to hose who have been at the helm of our economic life; that s, the captains of industry. They were about equally divided in their opinion as to the efficacy of any attempt consciously to bring about some degree of economic stabilization. A striking feature was the frank insistence by some f them that the basis of the present havoc lay in the maldistribution of wealth. To Daniel Willard, president of he Baltimore and Ohio Railroad, one of the most esteemed f our railroad executives, most of the trouble we have today arises from the fact that we are not dividing things just ight, somehow. Our scheme for dividing up is not working. We have not provided for the man who does not have and an not obtain work." Likewise, Henry I. Harriman, vicehairman of the board of directors of the New England Power Association and chairman of the recent Committee on Continuity of Business of the United States Chamber of Commerce, felt that "the reason that many people, even n 1929, were living in want and without a high standard f living was the inadequacy of the wage paid them and the general inadequacy of our system of distribution."

YET irrespective of the causes lying behind the present emergency, there was a curious fatalism on the part of some of those highest placed in our corporate set-up. In he opinion of James A. Farrell, then head of the United States Steel Corporation with its billion of capitalization nd its hundreds of thousands of workers, employed and unmployed, there was little that could be done to prevent future recurrence. Modifying the Sherman Law "so that here could be reasonable competition and reasonable profits" night accomplish some good. As for economic planning, "it would be an impracticable thing in the steel business." This should not, of course, preclude some organization "to keep a watchful eye over the situation." In last analysis Mr. Farrell had no definite opinion "one way or the other s to the utility of the thing." He thought, however, "it night be tried."

Even Mr. Willard was not "persuaded that a commission r council . . . was necessary or would accomplish any substantial good." As to the possibility of such a body having seen the development of the economic trends which were tending to aggravate the situation in 1928 and 1929 and called them to the attention of those in control, Mr. Willard was doubtful. "I suppose," he said,

t is possible that they might have done it, but I may say that I hink it is extremely improbable, because some of the wisest nen that I know, at least I look upon them as wise men, eemingly failed, just as much as I did to see what was ahead



THE SAW-TOOTH CURVE OF INDUSTRIAL PRODUCTION

Since 1920 we have had two major and two minor depressions. After the up and down of 1921-4, industry remained on a fairly even keel for three years. In 1927, the "Ford depression" caused a 10 per cent decline, followed by a continuous upward climb to June 1929, when output was 35 per cent over that of the short boom of 1923-4. The current depression had brought industrial output down to 60 per cent of the 1929 heights by the fall of 1931.

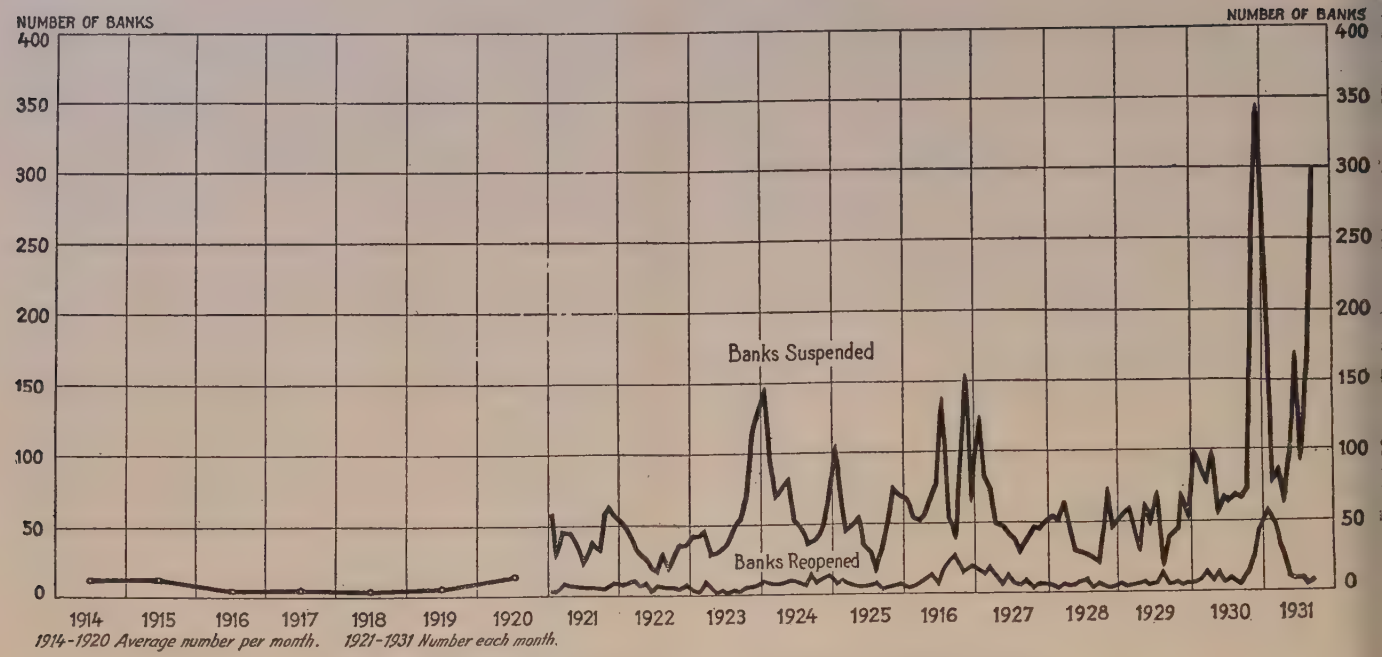
of us. Certainly, I did not see it. I would do a great many things, if I were doing them over again, differently from the way I did the last time, and I repeat that with respect to all the men I see engaged in business—they all, or nearly all, seemed to be just as much mistaken as I was.

As for Clarence M. Woolley, chairman of the board of the world's largest producers of radiators and sanitary equipment—the American Radiator and Standard Sanitary Manufacturing Company—it was his opinion that the factors which affect our economic life are so numerous, complicated and sensitive, "that it is too early even to consider it" [the creation of a National Economic Council] "due to the lack of essential economic foundations of knowledge that will be required to set up a control of that sort."

But to Alfred P. Sloan, president of the General Motors Corporation (whose net earnings in 1928 when Chevrolet drove Ford out of the market, were $272,000,000), any attempt to level out the fluctuations in industrial activity "is a step in the right direction." Unwilling to forecast just what could be accomplished he nevertheless felt that "a great deal of good would result from a council made up of the right type of men with an appreciation of the problems we are now confronted with." So, too, Henry P. Kendall, a large operator of cotton mills, emphasized the need "to bring about cooperative action among the basic industries."

George J. Anderson, president of the Consolidation Coal Company, after years of experience in what Mr. Hoover has characterized as the worst functioning of industries, made it evident that he had become convinced that the coal industry at least could not achieve any appreciable degree of stabilization with the voluntary machinery which now prevails. The American people had come to believe that economic leadership is either "absent" or "incompetent," and he insisted that an economic council is the only mechanism whereby "you can put out in front . . . a group of men who will be accepted in the case of common emergency as leaders." Such a body, he believed, "should supply leadership of a type to approach those things which are not within the control of groups, however well organized."

The real opposition to any attack upon prevailing methods of industrial organization and guidance came from financiers. "Human nature being what it is," none of those bankers who testified could see any effective advantage to be gained



THE CHECKERED CAREER OF OUR BANKING INSTITUTIONS

In the 1914-5 depression, 351 banking institutions suspended operation. During 1916-19, suspensions averaged about 4 a month. In 1920, the total was 150. Then banks closed at a rate varying from 30 a month in 1922 to 89 in 1926. In November 1926, 156 banks closed their doors, most of them small country institutions with capital stock of less than $25,000 each. In 1930, the critical financial situation throughout the country caused 1345 banks with deposits of $864,715,000 to shut down. The total suspensions for the 10 years ending 1930 was 6987. For the first 9 months of 1931 the number was 1234, with deposits totalling $929,485,000.

from even a continuous study of economic trends. Some like Melvin A. Traylor, president of the First National Bank of Chicago, with a half billion of assets, placed upon our banking machinery a measure of responsibility for the events of the past two years. Investment institutions, he said,

> to a larger extent than is true of any of the other banking fraternity, disregarded what should have been obvious signs of danger in many of their promotions.

When asked his opinion of those businessmen who expanded their plant and equipment beyond the consuming power of the market, he replied:

> I have expressed my opinion on that a few times. It was not very popular with some of my friends, but the degree of intelligence exercised by all of us in the look backward, certainly does not entitle us to very much credit as wise men. I think that is particularly true of industrial leadership because, after all, it had the facts of the situation; and those facts, it seemed to me, were conclusive, not only that we could not support the volume of business of 1928 and 1929 for an indefinite period but certainly that we could not look for an increase of that volume and the industrial plant was equipped for a production far in excess of even the consumption we had up to 1929.

Mr. Traylor felt, nevertheless, that the collection and dissemination of data on the condition of industry would have little or no effect upon the conduct of industrial leaders. "As to their effective use," he said,

> I am frankly skeptical, because of the weaknesses of human nature and the inclination of each industry and each nation to pursue its own course, as, at the moment, seems best calculated to serve its own interests.

Eugene Meyer, governor of the Federal Reserve Board, also expressed little faith in authoritative outgivings as a check to industrial expansion. Admitting that the voice of warning is the most valuable as well as the most scarce in times of prosperity, he, nevertheless, contended that "it is the most inarticulate and it has great difficulty in getting a hearing." "And," he emphasized, "if it is going to be right it is going to be right too soon, and it is going to appear to be wrong."

Prefacing his remarks with the statement that his views were based on hindsight rather than on foresight, Charles E. Mitchell, chairman of the National City Bank, who saw the stock of his institution shrink within two years from $585 to $59 per share, admitted, as did Mr. Traylor, that the banking system was in part responsible for the unbridled expansion and speculation of the predepression era. Yet, he contended, the situation was largely outside the bankers' control.

> . . . So long as we live under a system of individual liberty, [he held] we are bound to have fluctuations in business. Freedom for the individual to engage in whatever business he chooses, and to develop that business in accordance with his talent and judgment, is a privilege which all Americans cherish. It involves, however, the freedom to make mistakes. . . .
>
> . . . On matters of giving counsel, my observation has been that it is one thing to give counsel, and another thing to get people to follow it. . . .
>
> In expressing my skepticism of the measure before the committee, I do not want to appear unfriendly to efforts to improve the situation. I can not help feeling, however, that business will be governed best by the natural laws of supply and demand, which will control the situation more effectively than the best-intentioned regulatory or advisory body imposed from above could possibly do. . . .
>
> My principal concern, as I view the possibilities of this bill, is that nothing be done to place a handicap upon the exercise of initiative and enterprise in industry. Time and time again we have seen, in an industry well adjusted in point of capacity to its market, new spirits thrust their way forward with new energy and new ideas, creating excess capacity, it is true; but at the same time revolutionizing the industry and giving it a new leadership. This is the history of economic progress. What is our National Economic Council going to do about this? How can we purchase stability except at the price of progress? This, it seems to me, is the dilemma of any system of central planning.

Insisting that the bankers had done nothing more than

to supply what their customers wanted during the period of investment craze, Albert H. Wiggin of the Chase National Bank, with resources running over two billions, expressed the similar opinion that it is to prices and the unconscious automatic functioning of the market that we must look for the necessary checks.

The Chairman. Then, I take it, you believe there is nothing which can be done that will be effective in saving us from these great fluctuations in business activity which we have experienced in our past history?

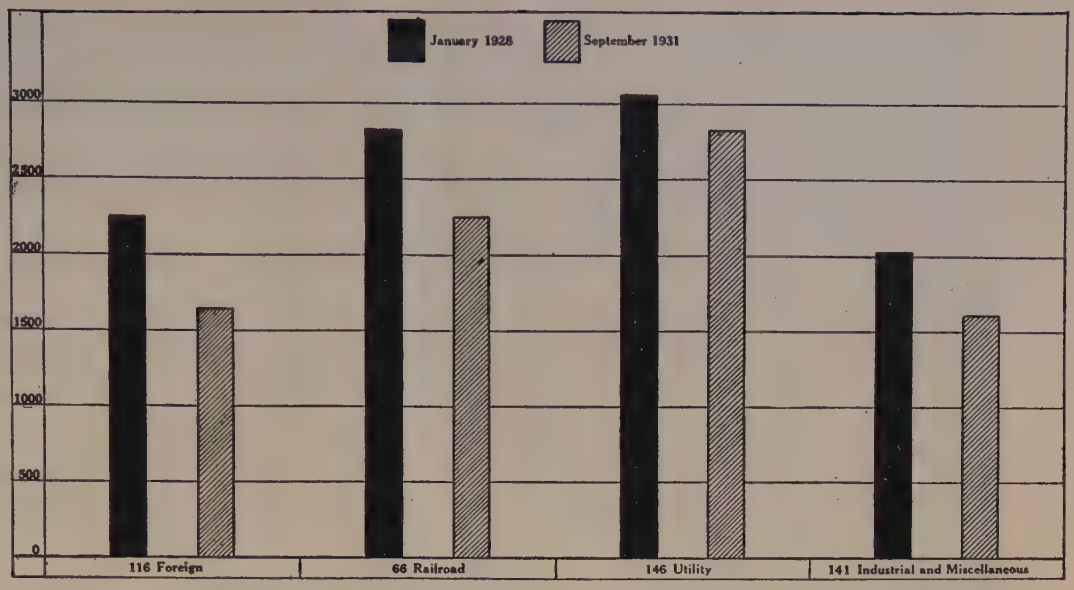
Mr. Wiggin. I do not think so. A man only lives so many years and his experience only lasts with him so many years. New generations succeed and they will make the same blunders in the next generation and succeeding generations as were made in the first. . . .

The Chairman. Your counsel is one really of despair, then. We are going to suffer these terrific dislocations and the suffering that goes with them on the part of the people generally?

Mr. Wiggin. I think you are looking for a superman, and there is no such thing. Human nature is human nature. Lives go on. So long as business activity goes on we are bound to have conditions of crisis once in so often. We may learn from each one how to avoid that particular difficulty the next time, but you are always going to have, once in so many years, difficulties in business, times that are prosperous and times that are not prosperous. There is no commission or any brain in the world that can prevent it.

The Chairman. You think, then, that the capacity for human suffering is unlimited?

Mr. Wiggin. I think so.



WHAT BECAME OF OUR SAFE INVESTMENTS?

The market value of 469 bonds fell from $10,135,100,000 in January 1928 to $8,310,400,000 in September 1931, a decline of $1,824,700,000 or 18 per cent. In this group were 116 foreign bonds listed on American exchanges. Their value shrank by 27 per cent. Sixteen railroad bonds showed a falling off of 27.1 per cent, while 141 industrial and miscellaneous issues decreased by 20.6 per cent. Public-utility issues were the only group which showed little change in value, their decline being only 7.5 per cent.

AT variance with these bankers, two engineers saw as our immediate need some machinery for controlling the further unwise expansion of capital facilities. Our difficulties, as seen by H. S. Person, director of the Taylor Society, lay in the tremendous increase in our productive capacity and the accumulation of wealth unaccompanied by any significant change in its distribution. Thus, "an ever-larger proportion of the claims on social income have gone to a smaller group in society."

. . . This had led to the development of the strongest of motives for investing this surplus above immediate consumption needs in productive enterprise, in something that will yield a return through time. So great has been this accumulation of what you might call a social surplus, above the consumptional needs of those who have it, that institutions of great strength and effectiveness—investment banking as a whole—have developed, for the purpose on the one hand of stimulating the application of this capital to productive enterprise and the other of devising ways and means for its application. The result, in my judgment, has been an unwise, specific application of capital by industries generally.

It is a reasonable expectation that a national economic council, properly organized and manned, and with adequate powers and facilities, could serve as a force—through the publication of pertinent data, analysis of them, and direct recommendations—which would influence business enterprisers to make decisions which are compelled by the facts disclosed; decisions which, because based on common information, would automatically achieve some degree of balance between total consumption and production, and between the production of the various industries.

Although in substantial agreement with Dr. Person, R. E. Flanders of the American Engineering Council laid particular emphasis upon the need for a governmental body which among its duties would serve as adviser to the federal government on those matters which have a bearing on our economic activities. Pointing to the close relationship of monetary policies, governmental expenditures, taxation, public works and the tariff to the economic life of the nation, he stated:

. . . It is really dangerous for industry to take the position, even tacitly, that if you give it the power it can control the severities of the business situation. I do not think that is possible. I think it is dangerous for industry to put itself in the position that if given power it can produce the results. I think it can not, because the primary elements of the thing seem to me to be in the control of the government and in the field of government rather than in the field of industry.

The contrasting view on this question of government action was set forth by Henry I. Harriman of the U. S. Chamber of Commerce and Gerard Swope of the General Electric Company. Emphasizing the need for an economic council if economic stability is to be attained, Mr. Harriman presented the proposition that such a body should be under the control of private business. Although working in closest cooperation with the government "the council should be appointed by business and supported by business." It should be advisory in its character and should depend upon the reputation of its members and staff for its standing before the country. Such a council, he held, must be supplemented by extensive trade associations and by the power of private industry to restrict its output and to make contracts for dividing its market among its membership. (*Continued on p.* 640)

WHERE PRECISION BEGINS

Photo Study by Lewis W. Hine

Scientific Management's Bigger Job

By H. S. PERSON

Photographs by Lewis W. Hine

FREQUENTLY any proposal looking toward collective planning of industry is met by the question, "But how could it be done? We've never had experience of that kind."

That is the fact; the proposition does involve something new. Yet American industry particularly has had experience which bears on the problem. Why is it that some far-flung, multiple-plant corporations are managed today with more precision and balance than even the small plant of fifty years ago? Why has the limit of manageable size of industrial organizations been pushed farther and farther into the background? The answer is, because scientific management has developed in an ever-widening spiral of influence in industrial stabilization.

The objective of those who advocate collective planning is stabilized industry. By a stable industry is not meant a static, unprogressive industry. The American least of all can think in such terms. A stabilized industry is one which grows but keeps in balance as it grows—in the relation of its constituent parts to each other and in its relation to environment; a moving equilibrium, we sometimes say, like the ship at sea which is trimmed to meet every change of wind and wave and keeps upright as it moves ahead.

By scientific management is meant that attitude of mind and that corresponding managerial technique which bases every decision and act—whether pertaining to purpose, policy, project, means or method—on research; formulates every significant finding of research into plans and specifications of conduct which all participants may comprehend; and which secures control and cooperation through the consequent understanding of common purpose and harmony of specialized activities. By research the total operations of an enterprise are adjusted to the trends of industry and current operations to the market; working capital to fixed capital; production to sales; and expenditure of energy (and therefore cost) in every detail to its result. The ideal sought is adjustment on every plane of relationship and economy in every adjustment in the light of all facts bearing upon the total managerial situation.

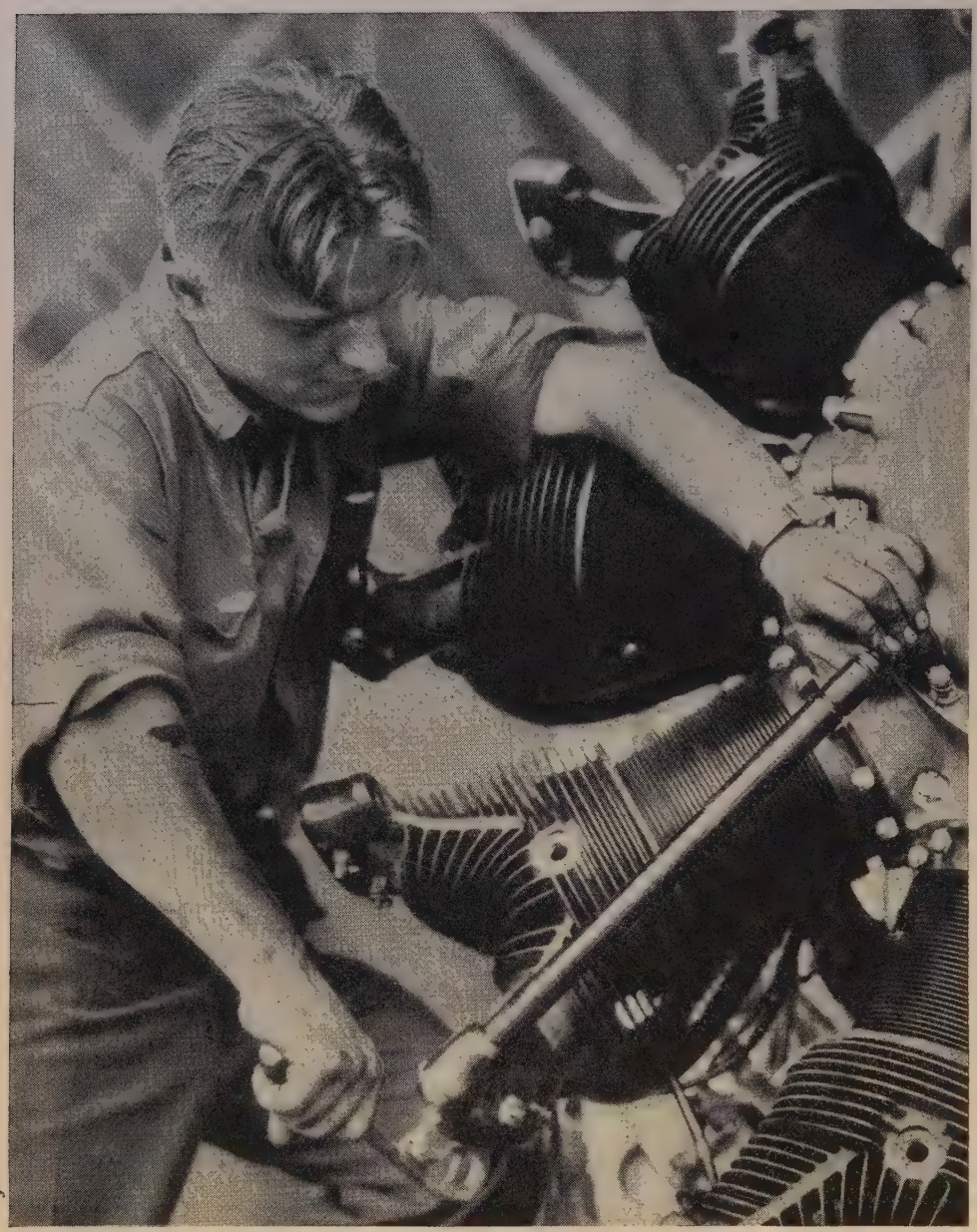
This inclusive concept of scientific management did not come into existence all at once. It is the result of a half-century of experience in meeting new problems of management as industry has become more complicated. In its beginnings fifty years ago it was concerned with the unit work-place; then successively with the shop, the factory, industrial relations, selling and general administration. Like a chambered nautilus it has grown from a simple beginning. Also, like the nautilus, that simple beginning held in principle and in rudimentary technique all that is contained in its mature manifestations of control.

That is why we believe scientific management contains in principle what is essential to any adventure into collective planning of industry. It is, therefore, worth while briefly to explain this half-century of development from one plane or area to another.

Fifty years ago American industry was the vigorous, expanding industry of a frontier nation exploiting vast resources. Management was characterized by hunch and guess and chance. Nature was so generous and gross profits so great that industry generally could stand the cost of this method of managing. But within industry were individual concerns which now and then felt the competitive disadvantage of such waste. A twenty-one-year-old foreman, Frederick W. Taylor, on his first job as such, felt the necessity of greater production from the small group of machines under his supervision. Having been a worker himself he knew the output could and should be better without greater exertion by the workers he supervised. Imitating the foremen under whom he had worked—the only kind known in that day—he undertook to force production by the strong-arm method. A bitter conflict was the result. This experience hurt his sensitive nature and he resolved to find some rational avoidance of such situations. After some thought he came to the conclusion that neither employers, managers, foremen nor workers knew what was a proper day's job on a machine; that everybody was guessing, and that these struggles were the result of the efforts of each to make his guess come true. If we can get real facts, said young Taylor to himself, then everybody will have a common basis for judgment;

Enter the Technician

There was the time when industrial issues hinged on the cleavage between capital and labor. With the application of science to production, a professional group came to take their place in the going set-up of American industry, not only implementing it in new ways but applying new principles in synchronizing men and machines. Today scientific management gives to the huge corporation the same stabilizing influence that at the beginning it gave to the work bench and the shop. And for tomorrow, it offers its techniques to the collective planning of industry in that wider area where environmental forces set at naught the best laid plans of managements and men.



Photos by Lewis W. Hine

Scientific management began by seeking experimentally the "best" conditions for the individual worker and his tools

then there can be agreement on what should be done in a given time. So he asked permission to start some experiments. That was the beginning of scientific management.

First the Unit Work-Place

"A JOURNEY of a thousand miles begins with a single step," says a Chinese proverb. Scientific management was at first concerned only with the unit work-place. Promptly these experiments discovered a new world of information within that small area; particularly that the machines and tools and the methods of their use were far from the best possible. Experiment discovered for each work-place the best condition of the shafting and wrote that down as a specification or standard; the best condition of belting and made a specification of that; then likewise the best conditions for the work-place as a whole, the machine, the tools, and the methods of manipulation, and these were recorded as standards. It was discovered by combining all such *bests* that an inclusive standard specification for any operation could be formulated and a standard time for its performance determined. This mad possible not only greater produc tivity immediately, but also ult mately, through better coordinatio by predetermination of machin time, man time and costs for an operation; and it made possibl predetermination of future avai able time on any machine an planning of future work. In shor it gave control of the situatio involved in operating a machine control over conditions at eac unit work-place. It made bal anced use of the machine possible This was the first stage of scien tific management and in it wer involved the basic elements of a later technique: research; spec fications or standardization; con trol through planning; cooperatio through common understandin and working to interrelated spec fications.

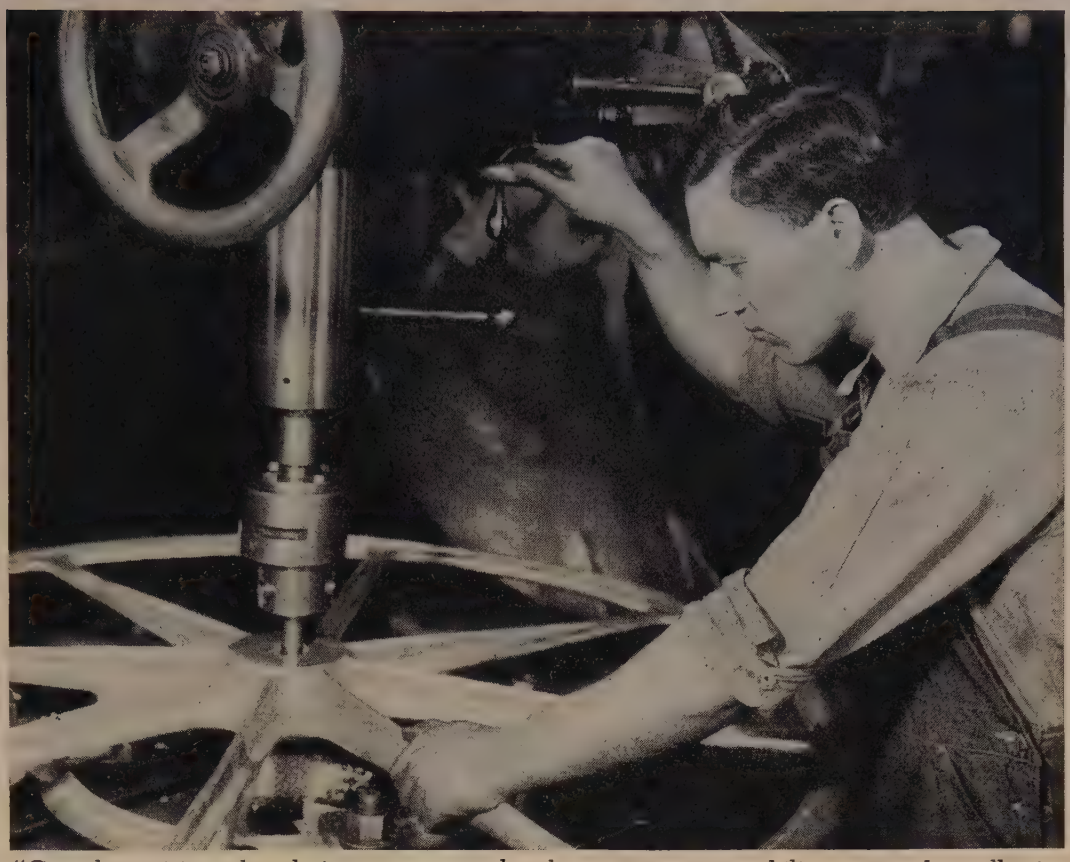
As an illustration of what meant by such control of con ditions at a unit work-place, le me cite a recent incident. A manu facturer purchased a battery o three identical machines whic should give identical outputs. The were installed by the maker an put into operation. Soon it wa observed that their relative ou puts were in the ratio of 100, 8 60. They were operated by equal ly skilled workers. Investigatio disclosed that the output diffe ences were caused by differenc in belting tension and therefore i the amount of power delivered t the machines. Until this conditio was corrected there was no con trol over this battery of machines and predeterminations o output were impossible. Correction of the situation pu everything in balance, control was established, and perfec economy of use was achieved.

Then the Shop

PROMPTLY it proved to be impossible for scientifi management to limit its concern to the work-place All the forces making for work-place instability do not orig nate within that particular area. A work-place has rela tions with other work-places; for instance, work-place B may receive materials already partly machined from work place A, and may deliver the materials on which it ha worked to work-place C. Work-place B can never be com pletely stabilized if work-place A delivers materials to it i an irregular flow. Therefore A must be brought unde similar control in order completely to stabilize B. Only i that manner can modern management achieve the importan objective of a continuous forward flow of materials throug every series of work-places. The second stage of scientifi

nanagement was therefore he stabilization (as in a nachine shop) of work-laces in their relation-hips as well as individ-ally; which means scien-ific shop management.

It was at this point hat scientific manage-nent discovered the im-portant compulsion that o stabilize completely ny lesser area it must each out and stabilize he influencing environ-nent. It is this compul-ion which has made it each out in successive tages of stabilization ver ever larger areas of nanagement.



"Can this spirit and technique . . . now be drawn upon to stabilize . . . the collective management of all industry?"

Next the Factory

TS next concern after the shop was the fac-ory, or the entire pro-uction area. A factory s usually a combination f various shops: a foun-ry, a machine shop, a ood-working shop, an assembly room, and so on. Just as ndividual machines must be maintained in stable relation-hip, so must these major departments of the factory. A oorly managed foundry may disorganize a well managed nachine shop. Any poorly managed processing department an upset the assembling department's operations. There-ore to conserve and perfect what it had achieved in shop tabilization, scientific management was compelled to attack he problem of the entire production area, and gave us sci-ntific factory management.

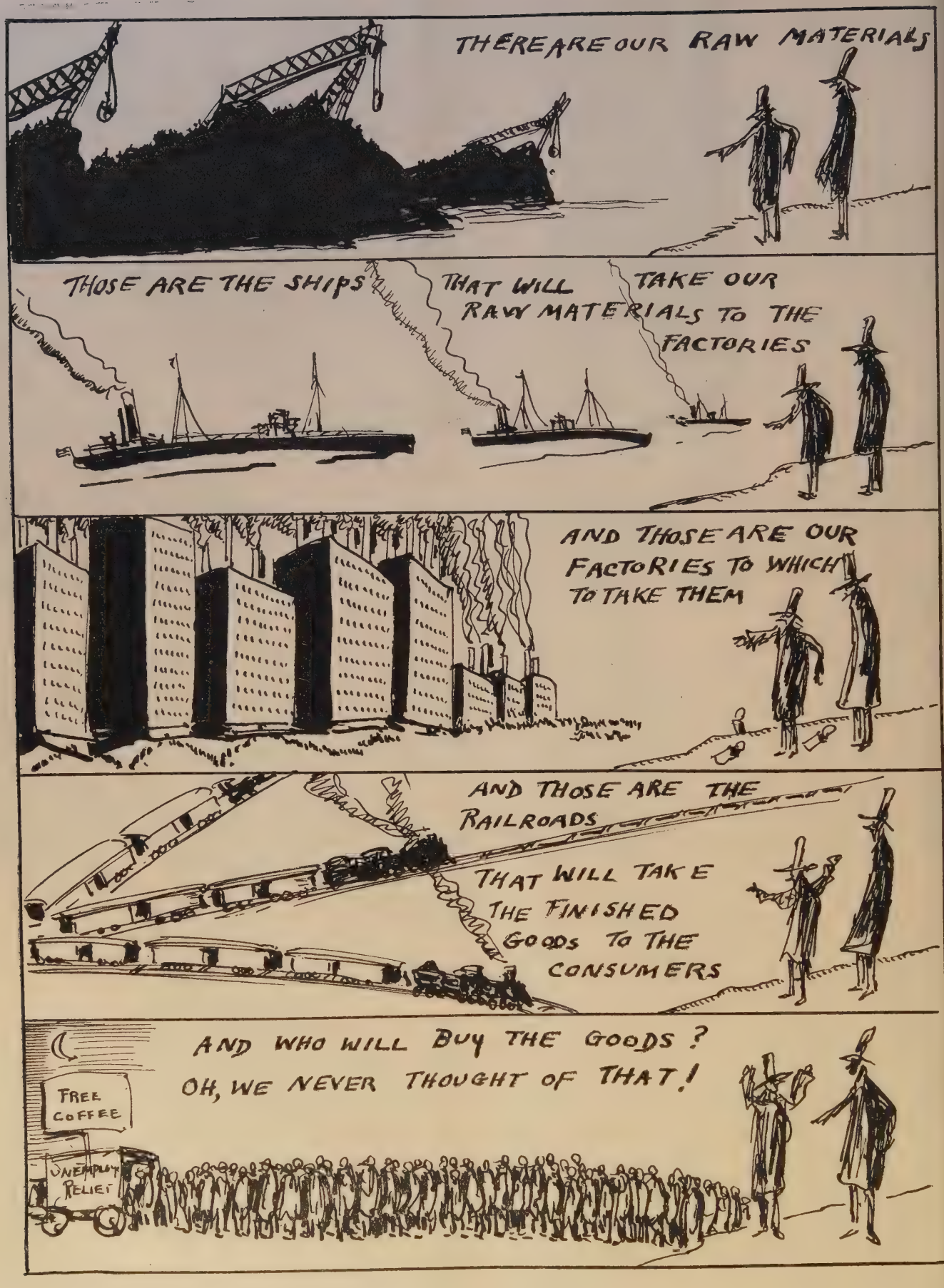
After that Personnel

FROM the moment of its first concern with the unit work-place, and through the steps of its concern with he shop and the entire factory, scientific management found self continuously concerned with another area of manage-nent related to all of these. That was the area of personnel anagement and industrial relations. It was common sense hat work-places could not be brought under control if re-arded merely as machines, or shops brought under control if egarded merely as collections of related machines. A work-lace is a machine operated by a human being. Human apacities, skills and good will are vital and highly variable actors. From the beginning scientific management gave at-ention to this phase of the problem and gave industry the rst specialized personnel manager. Out of that has de-eloped the special field of personnel or labor management. esearch and standardization are being applied to selection, raining, promotion and other aspects of relations with in-ividual workers, and even to aspects of group relations. In his manner many variables are eliminated and relatively reater stability in management achieved. Suitable skills, ommon understanding and good will reflected in low labor turnover are major factors in establishing operative stability.

Forty years of the half-century of scientific management were devoted to its development in the areas of production described above. Industrial conditions before and during the War were such that forces of instability outside those areas were not strong enough to attract attention. There was an active, a sellers' market, when demand seemed insatiable and sales relatively easy. Then came the sudden plunge into a buyers' market following the War, and a wholesale upsetting of the production stabilization already achieved. Stimulated by this catastrophic influence, scientific management, in part to restore production stability, in part to save industry, turned its attention to the two important remaining areas of management—selling and general administration. Within the decade it has revolutionized management in these areas.

Next Marketing

TO the problem of marketing it applied the principles and basic technique which had been developed in the production area. Today the best-managed plants apply research to their markets. They study purchasing power, consumer tastes, the suitability of their items, the forces of competition, and so on. They compute specifications called quotas (amounts to be sold) for counties and regions, by commodities and by salesmen. From these data they construct practicable sales programs. Something approaching a balance between the market and the business is achieved. There is now little manufacturing "to stock" in the blind hope that the goods somehow or other will be sold. Today manufacturing is to calculated demand. A notable achievement in this respect in the food industry may be used as illustration. Ten years ago most of the sales and production of a well known packing com- (*Continued on page* 642)


THERE ARE OUR RAW MATERIALS
THOSE ARE THE SHIPS
THAT WILL TAKE OUR RAW MATERIALS TO THE FACTORIES
AND THOSE ARE OUR FACTORIES TO WHICH TO TAKE THEM
AND THOSE ARE THE RAILROADS
THAT WILL TAKE THE FINISHED GOODS TO THE CONSUMERS
AND WHO WILL BUY THE GOODS ?
OH, WE NEVER THOUGHT OF THAT !
FREE COFFEE
UNEMPLOY RELIEF

GOING TO IT IN THE AMERICAN WAY

By Hendrik Willem Van Loon

The Swope Plan and After

By ROBERT W. BRUÈRE

AS an American who happened to be working on economic problems in the Orient during the years following the Wall Street crash of November 1929, I found myself embarrassed at every turn by the insistent curiosity of Japanese and Chinese industrialists and economists as to why, with their vast capital and natural resources, and ostensible engineering leadership, the people of the United States, like the miser of Normandy, should be choking under the avalanche of their hoardings of gold.

How did it happen that the paragon of all industrialized nations, with its multitudes of technical experts and professional economists, its system of universal education, its prodigious equipment in state and private universities, and its sovereign democratic institutions, should seem so firmly chained to ancestor worship—"the ideals of individualism" handed down from the Fathers—that it was incapable of any boldly concerted application of the methods of science to the elementary problem of keeping open the channels of distribution between its mechanized farms and factories and the citizens who were in want of food and clothing and work? Why did the masters of invention and mass production throw all gears into panic reverse before a phantom Overproduction when even in the period of high prosperity some twenty millions of the American people were living at or below the bare subsistence level, and another twenty millions at the minimum for health and efficiency? In remote handicraft villages of China as well as on millions of silk-growing farms in Japan, people dependent upon American purchasing power wondered why America, with her glutted granaries and warehouses, was unable to buy the products of their industries, many of them developed in response to American demand, so that the plague of unemployment was spreading like Spanish influenza round the full circle of the globe.

It was in vain that one suggested the World War and the subsequent bad housekeeping of Europe as the primary explanation. Was not America economically self-contained according to high official pronouncement? As the chief creditor nation of the world, was she not master of the international credit situation? Had not American experts been invited to devise plans for the rehabilitation of Europe at a time when America was experiencing the greatest boom in her history? Why was it, then, that she had not produced experts to devise a plan for the stabilization of her own prosperity, especially since her foremost public spokesmen recognized that economic normalcy throughout the world was contingent upon normalcy in the United States? Why did the cables from America bring continuing reports of falling stock prices, falling farm prices, falling production, and more rapidly falling consumption, while one official conference after another envisaged the mobilization of the national resources, not so much in terms of engineering or industrial planning, but primarily in terms of ever-widening appeals for charitable contributions toward the emergency relief of the unemployed? Why did America, famed for the genius of her inventors and the alertness of her captains of industry to the practical applications of scientific discovery, leave it to the upstart amateurs of Russia, in revolt against centuries of czaristic oppression, to make the very term, economic planning, synonymous with dictatorship instead of with the resolute purpose and self-governing capacity of a free and enlightened democracy? To simple minds in the Orient, conscious of their own technical and political retardation, the planless floundering of their paragon was provocative of an endless series of perplexed questions.

AFTER months of exposure to such harassing curiosity, it came as a Godsend when an American industrial leader, whose voice could be heard through broadcasting subsidiaries in the major industrial centers of the world, had the courage to propose a plan for the alleviation of unemployment through the stabilization of industrial production, not as a panacea, but as a mark for critical discussion and a possible point of departure for large scale social experimentation. The Swope Plan for the Stabilization of Industry, whatever one's verdict upon its suggestions in detail, was the first public evidence with candle-power enough to shine out across the seven seas, that an American industrial leader had lost the fear of the ancestor-worshipping taboos set like devil guardians at the gate of rugged individualism, which as a matter of practical fact had in so many directions gone by the board, and was willing to identify himself with the slowly evolving idea that all business enterprise is affected with a public interest and is therefore within reasonable limits properly subject to public supervision in the interest of the welfare of the total community.

That important sections of the American public at home shared this sense of relief when Mr. Swope, seconded by the chairman of the board of the General Electric Company, uttered a plan instead of whistling another tune of desperate optimism, was manifest in the country-wide editorial comment typified by the usually temperate

Enter the Employer

Last summer, hundreds of editors, whether for or against the plan put forward by Mr. Swope, sent up shouts of rejoicing at this concrete evidence that American industrial leadership had not completely exhausted its creative initiative in building and exploding the boom; it still had energy left to formulate a proposal for resolving chaos into order. Here Mr. Bruère, who in the last five years has more than once interpreted industrial policy under the G. E., appraises the dynamic project of its president.

Christian Science Monitor: "At last," exclaimed The Monitor, "American industry has answered the challenge of economic chaos. For nearly two years the cry for leadership has gone up with increasing insistence from a people harassed by overproduction, unemployment, and fear of the future."

Mr. Swope's plan was not spun out of theoretical cobwebs. It evolved out of his own extensive experience in the management of a great national and international organization, itself a merger of companies brought together to regularize production, to stabilize prices with due regard to the "rule of reason," which he had used as a laboratory for extensive experiments in the stabilization of employment including the most far reaching scheme of unemployment insurance ever undertaken by an individual industrial concern (see The Survey, December 1, 1930, page 245). Its publication followed by some months elaborately documented proposals for national economic planning put forth by Stuart Chase in Harper's Magazine and by Charles A. Beard in The Forum. Under the initiative of the Amalgamated Clothing Workers' union, the men's clothing industry had blazed many of the trails which Mr. Swope urged the nation to follow. But it was the daring of the chief executive of one of America's largest and most substantial manufacturing concerns in proposing the abandonment of "free competition" and the transformation of all private enterprise into the virtual status of a public utility under the supervision of a governmental commission that startled the public to attention.

Mr. Swope introduced his plan with a declaration to the effect that unemployment is wrongly viewed as the inevitable by-product of the fatal swing of an uncontrollable "business cycle" moving through human affairs with the inexorable regularity of the lunar tides; for him it is a very human phenomenon, whose amelioration and ultimate elimination is a proper charge upon industrial management. He said:

> In the situation that confronts us at present, the most disturbing aspect is that men who are able to work, who above all things desire to work, cannot find work to do. That this condition has ever been present in such periods detracts nothing from its wrongness. That industry must evolve and make effective those measures that will first ameliorate and ultimately eliminate it, must be the reaction of everyone who gives thought to what is taking place. I say that industry must do this thing, because it will surely be done.

BY whom will it surely be done, if not by industry? By the organized community, through the agency of the state and federal governments. "He admits," commented The Beacon Journal of Akron, Ohio, "that the plan he proposes is a sort of lightning rod erected to forestall the shock of alternative action by Congress in case industry of its own motion fails to put its house in order." This is too narrow an interpretation; it is possibly an invidious interpretation. Other commentators, reading the plan with a different emphasis, are impressed by Mr. Swope's apparent skepticism as to whether industry, relieved, as he proposes, from the restraints of the anti-trust laws, could be fully trusted to deal with the problem of unemployment,—which he approaches through a program for the voluntary limitation of production as essential to industrial stability,—with primary and strict regard to the public interest.

The agency to which he would entrust the execution of his plan is the trade association. To enable the trade associations to function freely he proposes that Congress shall amend the anti-trust laws so that the industries included in the various associations shall not be exposed to criminal indictment as conspirators to restrain trade when they are conscientiously cooperating in the public interest. But lest any member of an association, or any wayward association as a whole should abuse the new freedom, Mr. Swope proposes that "the public interest shall be protected by the supervision of companies and trade associations by the Federal Trade Commission or by a bureau of the Department of Commerce or by some federal supervisory body specially constituted." Whereupon The Journal of Milwaukee stigmatizes the entire plan as revolutionary, cowers before the impending lightning and takes no comfort in the rod. The Journal observes:

> It is inconceivable that Mr. Swope sees it as having all the results it would necessarily produce. It suggests a Russian idea of organizing economic life with a sort of Fascist control. . . . No detail of our lives would be unaffected. Our employment, our plans, the opportunities of our children, our residence, eventually the very question of who shall be born—all would come under regulation by government. . . . And this amazing proposal is made three months after President Hoover's question at Indianapolis: "Shall we abandon the philosophy and creed of our people for 150 years by turning to a creed foreign to our people?"

JUPITER FULGURATOR? Jupiter Tonans? Or canny Ben Franklin? There are some, indeed, on the side of organized labor who see more subtle implications beneath the fair surface of the plan. But to the simply inquiring mind, Mr. Swope's language seems clear enough. There is some lightning there, though hardly of revolutionary voltage; there is a carefully designed lightning rod; the point-of-view is that of the magnanimous shepherd of a great company union who knows himself closer to his people than any outside trade union leader could be. The inspiration of the plan is a profound desire to lift the psychology of fear from the minds of wage-earners, and to stimulate industry to a more adequate utilization of its unique resources in the public interest.

What looked to The Beacon Journal like a lightning rod stands at the portal of the plan. Mr. Swope asks:

> Shall we wait for society to act through its legislatures, or shall industry recognize its obligation to its employes and to the public and undertake the task? Coordination of production is impossible under our present laws, and it is vain to think of their amendment or repeal unless the public is assured of the constructive nature of the steps industry will take, and that the interests of the public will be adequately safeguarded. . . . Organized industry should take the lead, recognizing its responsibility to its employes, to the public, and to its stockholders —rather than that democratic society should act through its government.

There is a somewhat confusing antithesis here between organized industry and organized society, with the seeming implication that their ways are distinct and peculiar, and their interests not always identical. The government of organized society appears to be envisaged, according to The Beacon Journal's interpretation, like a god of lightning prepared to hurl his devastating bolts at the innocent transgressor of his arbitrary laws. As matters now stand, industry, according to Mr. Swope, is exposed to a double menace. If in an effort to meet their responsibilities companies resort to cooperation, they may lay themselves open to criminal prosecution under the anti-trust laws. So arbitrary are these laws, that departments of government itself differ as to their interpretation. Yet if organized industry fails to act there is always the possibility that the thing will be undertaken by organized society through its legislatures, with the result

hat to Mr. Swope's mind "industry will be confronted by fferent solutions, lacking uniformity and imposing varying urdens, making competition on a national scale difficult. f either the individual states or the Federal Government ct, the power of taxation has no economic restraints." Wherefore what Mr. Swope proposes is not, indeed, a lightning rod but the complete removal of the menace.

Granted the elimination of the menace through the mendment or repeal of ne anti-trust laws, Mr. wope would have industry take two major eps toward the amelioration and ultimate revention of the plague f unemployment. Every effort," he says, should be made to stabilize industry and hereby stabilize employment, and when this is mpracticable, unemployment insurance should e provided."

Stabilization of production comes first. With this as the first bjective, he proposes hat all industrial and ommercial companies ith fifty or more emloyes, and doing an nterstate business, shall e permitted to form a rade association under he supervision of some ederal body, and shall e required to adopt this nd all other provisions f the plan within three ears unless the time is xtended by the federal uthority. The trade ssociations shall be permitted to outline trade ractices, business ethics, ethods of standard accounting and cost practice, standard forms of balance sheet and earning statement, nd to collect and distribute information on volume of business transacted, inventories of merchandise on hand, simplification and standardization of products, stabilization of rices, and all matters which may arise from time to time elating to the growth and development of industry and ommerce in order to promote stabilization of employment nd the best service to the public. The provision with reference to standardized accounting and cost systems and standrdized forms of balance sheet and earnings statement would e made mandatory. Similarly all companies with participants or stockholders numbering twenty-five or more, and ving in more than one state, would be required to send to ese participants or stockholders and to the supervising fedal body a quarterly statement of business and earnings and once a year a *complete* balance sheet and earnings statement in the prescribed form. Through all such means industry would endeavor to prevent *over*-production without prejudice to the consuming public through the unsupervised control or manipulation of prices.

There are two underlying assumptions here that have been the subject of sharply critical questioning; first, that the problem of industrial stabilization is primarily one of overproduction rather than one of inefficient and unsocial distribution and under-consumption; and second, that industry, when permitted to adopt curtailment of production as a trade policy could be trusted to share the full benefits of technological and other improvements through the lowest possible prices to the consumer compatible with a fair return on investment and the skill required.

We will come back to these assumptions later as they are crucial.

In so far as no plan can hope to attain so large a measure of industrial stabilization as to give complete assurance of continuous employment, Mr. Swope proceeds to a program of insurance covering all industrial hazards.

A workmen's compensation act, "which is part of the legislative program necessary under this plan," would be modeled after the best features of the laws of the several states, and, inferentially, would seem to be designed to supersede them in the interest of equitable competition on a national scale.

All employes of companies covered by the plan would, after two years of service, be protected by life and disability insurance, a system of old-age pensions, and an unemployment insurance fund to which they would be required to contribute a minimum of one per cent of earnings, but not more than $50 in any one year. The coverage of the unemployment insurance would be limited to employes with normal pay of $5000 a year or less.

The salient characteristic of this scheme of insurance is that its administration would be intrusted to general boards of administration formed by the several trade associations and consisting of nine members, three to be elected or appointed by the association, three (*Continued on page* 647)

Map by Hendrik Willem Van Loon

"To simple minds in the Orient, the planless floundering of their paragon provoked an endless series of perplexed questions"

Labor Leads Toward Planning

By SIDNEY HILLMAN

THE systematic efforts of the Amalgamated Clothing Workers of America at bringing order into a chaotically competitive industry have perhaps produced better results than similar efforts elsewhere. We have succeeded in accomplishing a measure of stabilization, but our very success points to the need for something that goes beyond voluntary cooperation by individuals, corporations and unions. The problem is national in scope and social in its implications and consequently the authority to work out salvation and the power to carry plans into effect must, as well, be national in scope and social in outlook.

The story of efforts at stabilization in the men's clothing industry goes back to 1910, when a new type of labor-union leadership emerged in that industry during a strike which tied up the important Chicago market for months. That leadership became national by 1914 when it reorganized the obsolete United Garment Workers and launched the Amalgamated Clothing Workers of America. By 1919 the union controlled 75 per cent of the industry. While the Amalgamated Clothing Workers of America is an "independent" union, in the sense that it is not affiliated with the American Federation of Labor, it has been in many ways intimately linked with the whole field of organized labor.

The men's clothing industry is a highly competitive one. Various attempts at mergers and combinations have been unsuccessful. It remains an industry of numerous small producers. The largest employer at this time has not more than four thousand workers. The typical employer has a far smaller group of men and women on his payrolls, and a total output of less than a million dollars a year, and there are numberless very small manufacturers and contractors. While the efforts of the Amalgamated were naturally directed toward better conditions for the workers, such as reduced hours and increased earnings, the union at no time overlooked the fact that the welfare of the workers was conditioned by the welfare of the industry as a whole. Overproduction, waste, irregularity—practices and problems regarded in many industries as belonging to the province of management—were viewed by the Amalgamated as labor problems and hence the immediate concern of the union. An unstable industry carried on uneconomically implies unemployment or underemployment. The Amalgamated faced squarely the task of building up sound labor standards and working conditions within the structure of a competitive industry. The union leadership took the position that the economic well being of a unionized employer should be the concern of the workers or improvements in wages and working conditions would turn into paper gains purchased at the cost of irregular jobs if not of total unemployment.

This meant a joint employer-employe attack on the specific problems of stabilizing production and employment by increasing individual productivity, reducing costs, eliminating waste, composing differences promptly and peaceably, and taking advantage of new technical advances in the industry without impairing the workers' earnings.

THE task of establishing a satisfactory level of individual production was in substance one of bringing output and wages into a sound relationship. The union began by making earnings depend on established standards of production. From this angle the union deemed piece-rates a fairer basis of determining wages than time-rates with protection against recurrence of the old evil of task work. To this end, output was to be standardized and a minimum of earnings made certain. All the men's clothing centers except New York were on a piece-work basis by 1923, and five years later most of the New York market had taken the step. While yardsticks of achievement are lacking, it is safe to say that these changes in method of wage-setting have resulted in advances in hourly earnings simultaneously with increased output, and substantial cost reductions.

One of the expensive luxuries in which unplanned industry indulges is stoppage due to "labor troubles" or to the fear of them. The total cost of strikes during the more troubled periods of this country's industrial history must have reached an enormous total. The adoption of an agreement with organized labor is in substance an insurance policy against this costly form of industrial waste. It must be borne in mind, however, that this type of insurance is not automatic. Its effectiveness depends upon the workability of the labor-management agreement. The Amalgamated has from the beginning provided for the creation of machinery for continuous arbitration of disputes arising within the industry under an impartial chairman. The impartial chairman is not appealed to, in settling occasional difficulties, as a sort of supreme judge; his job is that of mediation and conciliation. In actual practice, he is called on to make surprisingly few flat rulings. H

Enter the Labor Leader

Here the general president and guiding genius of the Amalgamated Clothing Workers of America offers his contribution to the idea of a plan-economy for the United States. It is based on the actual experience of the men's clothing industry, where union-management cooperation has made headway in stabilizing a highly competitive industry, but where its experience shows the need for scheming the country's industrial enterprise as a whole. Out of the forthright leadership and rank-and-file solidarity of this worker's movement comes also the urge for planning in accordance with our democratic institutions, from the bottom up.

oes his work by analyzing and discussing disputed points ather than by judicial decision. When the scheme was first ied, short stoppages were frequent. But as this simple exible method of handling disagreements came to be more idely understood and appreciated by workers and employers nterruptions due to "labor trouble" have ceased—strikes ractically never occur in organized plants, unless employers irectly provoke them.

A third point at which the Amalgamated has applied a lanning technique to the problem at hand in dealing with thorny industrial situation has been the introduction of achinery. The clothing industry is not highly mechanized, nd most of the traditional skills are still essential. But in s whole attitude toward labor-saving devices, the Amalgaated has departed widely from the usual trade-union slant. he organization has come to feel first, that resistance to ew machinery and other means of labor-saving would nd to weaken the competitive position of the union emloyer; and, second, that it might diminish the total volume f employment available in the industry by keeping price evels above the purchasing power of the consumer. In iew of these considerations, the union has encouraged imrovements in the means of production, but has tried to aintain some measure of control over them. For example, has permitted the introduction of pressing machines only n relation to the capacity of the industry or of a particular hop to absorb the displaced workers. In some cases, where he pressure of competition made delay impossible, the union ntered into agreements with employers for the payment of dismissal wage amounting in some instances to $500 apiece workers pushed out of their jobs by machines. The practice found its widest application in Chicago during the last five years, when large scale technical improvements have resulted in "technological displacement" in one large establishment of some 150 workers.

One of the most notable contributions of the Amalgamated in the field of industrial stabilization has been the work it has done toward eliminating waste. It was bound to tackle the problem since it concerned itself with the problem of labor costs. The savings achieved in this manner the union sought to prorate to labor.

Carrying this effort still further, the union attacked overhead costs. Obviously, if the cost of supervision could be reduced it would mean large scale economy to the industry. This could only be achieved, however, if the union membership assumed greatly increased responsibility for the quantity and quality of output, which meant a revolutionary change in the attitude of the worker toward his job. The union members were ready and have gradually assumed many of the functions and responsibilities formerly borne by management. As this phase of the program developed the union in three instances set up shops of its own and manufactured clothes for specified firms. In the main these experiments have been undertaken because of the financial difficulties of the employer and the demoralization of his factory. Two lasted only a brief time, because the firms supplied by the shops were unable to continue in business. The third union factory, however, operated for more than three years. All three were successful in meeting their budgets and in turning out a satisfactory product.

Along with the development of this manifold program aimed at planned orderliness in industry, the union has ex-

Wide World

THRONGS OF CONSUMERS

Harris-Ewing

OUR UNDEVELOPED MARKET

Contrasting scenes of December 1931—thousands of city shoppers; thousands of unemployed before the Capitol

tended its organization to minimize the threat to its standards in competition from unorganized areas. In a period of falling prices and a sharp drop in the total demand for men's clothing, the Amalgamated today maintains contractual relations with about 75 per cent of the industry. Several important centers, notably Philadelphia, unorganized ten years ago are now unionized (see Survey Graphic, December 1929, p. 26). These vigorous campaigns have in many instances raised working standards in non-union shops even where they did not bring them under contractual union control.

A measure of security for the workers at a time of falling volume of employment has been accomplished through the enforcement of the rule of equal division of work. Under this provision which is part of every Amalgamated agreement, all members of the union in a shop, to the extent that this is practicable, are assured an equal share of whatever work is available in slack periods. The rule may sometimes be temporarily set aside because of administrative difficulties, but it is not voided if that can be helped. In practice as well as in theory all union members attached to an establishment have some work, even during a period of general unemployment.

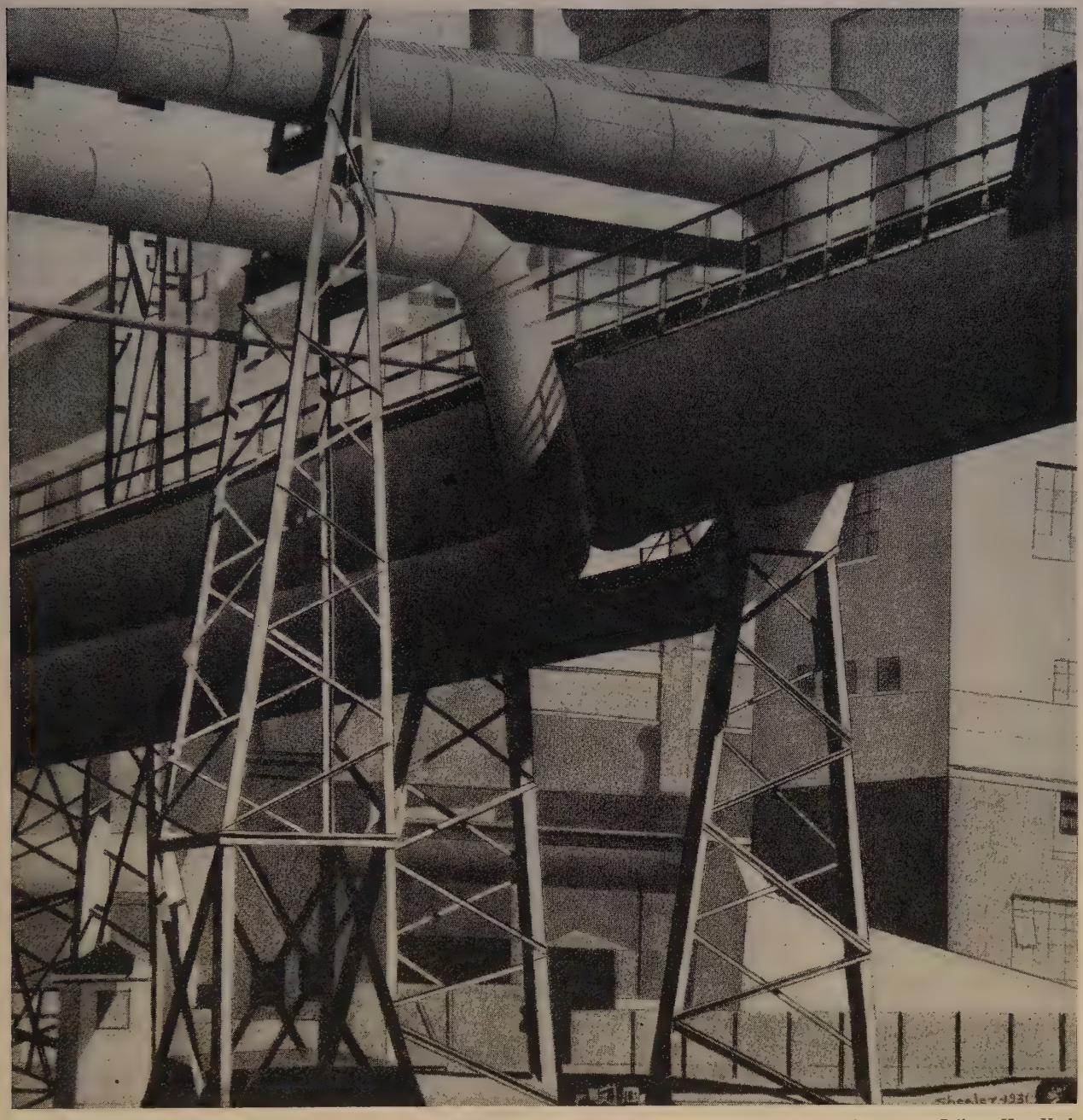
It is well to remember, though, that after all efforts are made to stabilize the industry it remains, like all other branches of our economy, at the mercy of general business convulsions. To deal in some measure with this basic insecurity, the Amalgamated inaugurated in 1923 a large-scale experiment with unemployment insurance in the Chicago market. Five years later a similar plan was established in Rochester and New York City. In Chicago employers and employes jointly contribute weekly sums to the insurance fund, the employer paying 3 per cent of his payroll, the worker 1½ per cent of his wage. Through a careful system of reports and record-keeping, the office of the fund knows the hours worked and the hours lost by every member during each six months' season. Eligibility to benefit is computed by deducting from the total number of hours lost, a waiting period of forty-four hours (one work-week). Benefits are then paid at the rate of 30 per cent of full-time wages for a maximum period of three and three quarters weeks in each season. Benefit payments began in Chicago in May 1924, after an accumulation period of one year. To date, the fund has distributed more than $6,000,000. In Rochester and New York, only the employers contribute to the fund, and at the rate of 1½ per cent of the payroll. The administration of the Rochester fund is modeled on that of Chicago. In New York, funds go into a common pool instead of being segregated by firm and eligibility is determined, not by the employment record, but by proof of distress.

THE Chicago plan was originally thought of as an incentive to greater stability as well as a relief measure. The agreement provides that employers whose unemployment reserves amount to two years' maximum benefit requirements may discontinue contributions until their fund has fallen below that level. Business conditions in the market have been so unfavorable that few firms have been able to take advantage of this provision.

During the past year, with an increasing amount of part-time employment and an unprecedented volume of total unemployment because of business failures, the employed members of the union voted a per capita assessment to establish a fund for the relief of jobless comrades who are no longer covered by the insurance scheme. The insurance plan in Chicago has been modified to permit 10 per cent of the total contributions to be set aside for use in times of large-scale unemployment.

It is fair to say that we have been generally successful in putting into effect our methods of stabilization, establishing employment reserves and in organizing our labor market. We have succeeded in making both production and employment more regular in normal times and in protecting employers and workers to some degree from the worst effects of the depression. But even in normal times we did not achieve full-sized stabilization. The 25 per cent of the industry which stayed out from union influence materially interfered with the program which three fourths of the industry accepted and found workable. This wilful minority has at all times challenged our program and in time of depression it constitutes a menace to our efforts. This proves first, that voluntary cooperation in economic planning is not enough; and second, that no one industry can stabilize itself entirely by its own efforts. Regularity in production and employment depends on the general state of industry and of agriculture, in short, on the economic health of the country as a whole, and that means national planning.

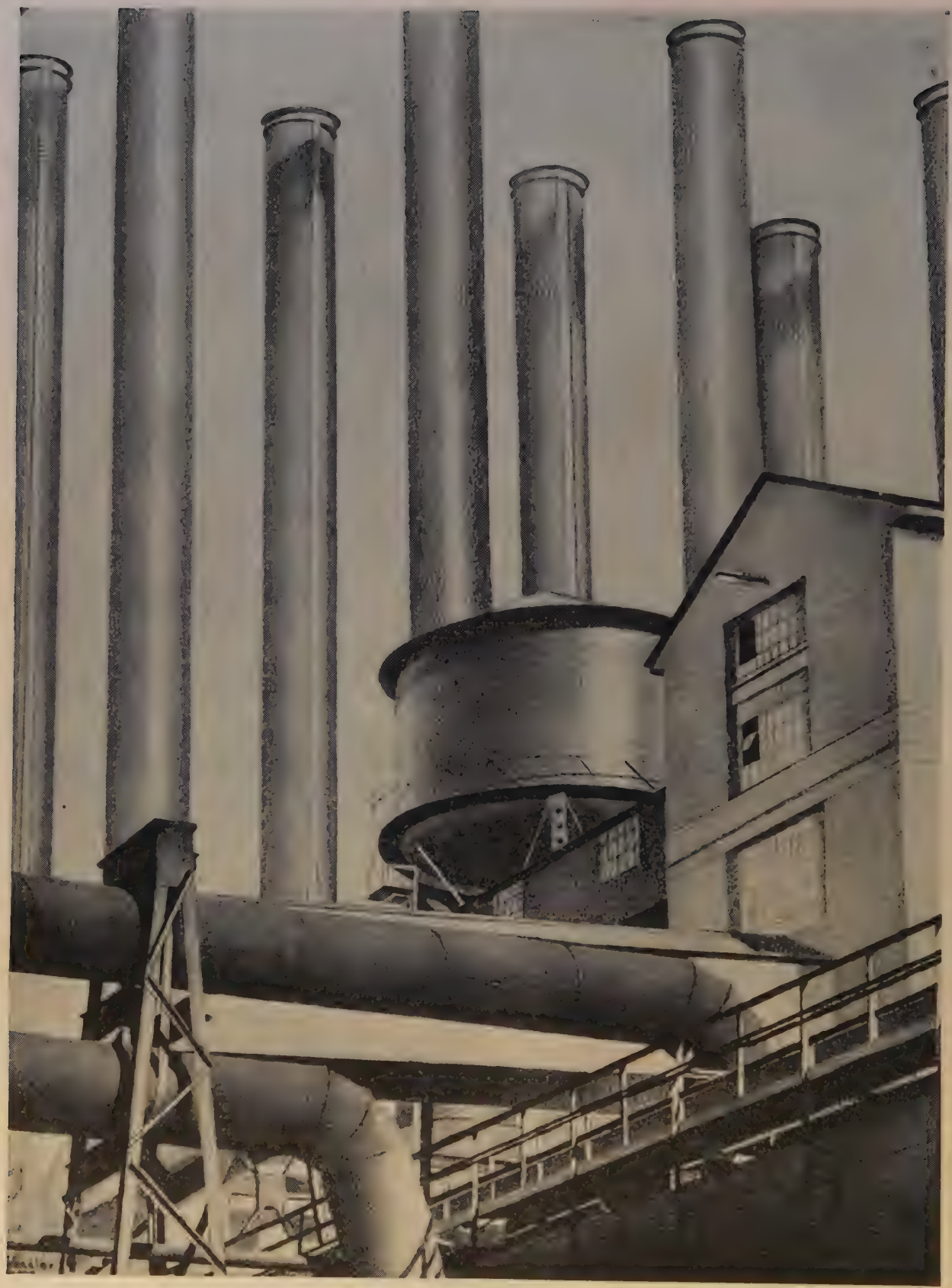
I DO not share the point of view of those who accept cyclical depressions as inevitable. Economists have made a fetish of the business cycle. We have grown accustomed to depressions as to changes of season. But we need not have periodic depressions with their accompanying human misery. The reason why we have recurrent depressions is not that there exists some untouchable "economic law" but that we have failed to apply reason to the conduct of industry. There would be no depressions if millions of American working men and women were not paralyzed as consumers by the loss of jobs and hence of wages. And they need not be jobless if production and consumption were brought into working harmony. Past experience clearly shows that individual business men or even the huge corporations, however powerful they may be, are not in a position to run our business system without having it land on the rocks every now and then. But if we are to have more effective handling of our economic endeavors human intelligence must be backed by authority and power. That authority and power lie within the Congress of the United States. It is the responsibility of the government to create an instrumentality that will guide a national economic plan. Among the specific problems that call for this large-scale handling are: the length of the working day and week, jobs for all people willing and able to work, "technological unemployment" that is now affecting millions of people. A minimum wage to be paid in all industries is another problem that economic planning would tackle. An assured basis of earnings would place more adequate power as consumers in the hands of the masses of people. There would be both incentive and aid for stabilizing production in such a course. The responsibility for national economic planning should be vested in a board representing labor, capital and the public. Nothing but such a fundamental change from present practice can possibly lead us out of the chaos in which we find ourselves today. Our great resources can be made the basis of a generously spread prosperity working without breaks and jerks if we plan intelligently, competently and in earnest.



Courtesy Downtown Gallery, New York

Order in the Machine Age

IN the nineteenth century Cézanne saw the natural universe in cones, cylinders and spheres. Today Charles Sheeler, one of the significant men in American modern art, takes these forms directly from man-made aspects of the contemporary world—those same functional tools of applied science whose solidity and simplification, dedication to use, are affecting the concept of beauty in architecture. This is the stuff of his painting. It is the spirit in his work that matters, that makes these three drawings, done with the Conté crayon, delicate and lovely versions of familiar things rarely associated with delicacy and loveliness. Sheeler has a harmonious acceptance of his age, a vision of its rhythm and order. He is not only a great artist but a disciplined craftsman as well. These examples of his work make their own contribution to the discussion in this issue of those same tools of man's making, which seem to have got out of hand.—F.L.K.



INDUSTRIAL DRAWINGS

BY CHARLES SHEELER

Cotton Textiles

Where a Minority Blocks Concerted Planning

By HENRY P. KENDALL

HISTORICALLY, cotton textiles make up our first American manufacturing industry. Today it is one of the first to attempt to plan and concert production. But we have the spectacle of an effort on the part of an industry thus to set its house in order, thwarted by a minority bloc which refuses to go along. Thousands of workers have been adversely affected. Towns and cities, even whole states are having their resources sapped because of the failure of companies controlling less than a fifth of the spindles to join in a mutual plan that would at one stroke make for business stability and cut out the hoary abuse of night running for women and minors. A handful of people are unrestrained by the will of an overwhelming majority in the industry, and this in the United States where the expressed will of the majority should prevail.

Many of the problems in cotton textiles are of long standing and have increased with the years until they are possibly tougher to solve than those of newer industries. But they are not only of interest because of the age of the industry but are of widespread public concern because of its size and its reach, North and South, through the belt of Atlantic states. There are 1291 establishments carrying on cotton goods manufacture of one kind or another. There are 424,916 wage-earners.[1] Annual wages total $324,289,-094. The value of product is at the rate of over a billion and a half dollars annually.

The industry was sick before the world-wide depression. It is disjointed. Many mills have slight if any control over distribution. There is very little integration of functions within individual cotton textile enterprises.

In the early days a man of pioneer spirit built a dam across a stream, built a mill and his house beside it. He ran his manufacturing. He marketed his goods. He made his own financial arrangements. His business grew with the growth of the country. The mill was enlarged. The second generation built the big white house on the hill.

The families of the sons turned their eyes toward the big city; left the white house on the hill, and an agent was appointed to run the mill.

The mill owners then ceased to be manufacturers.

Keen men saw an opportunity to market the products of several mills on commission. The mill owners who had left their manufacturing in the hands of agents were persuaded to turn over their marketing to these commission men.

The mill owner ceased to be a merchant.

Prosperity came again and again to the textile business. The commission houses grew. Intense rivalry among cotton-mill treasurers, who were located for the most part away from mills, measured success by the size of dividends. When business recessions came, the commission houses had spare funds. They suggested to the mill executives that cotton could be purchased and inventories carried by money which the commission people were willing to advance as factors of the cotton mills.

The mill owners then ceased to be financiers.

The commission people kept the mill managers at arm's length, and mill products lost their identity. Commercial bleacheries sprang up, bleaching and finishing products of a number of mills, taking a commercial profit for the service rendered.

Still other men offered to bring buyer and seller together, whether mill or commission house, and a race of brokers sprang up, performing a part of the marketing functions which presumably were the job of the commission houses. Other men purchased unbleached cloth, styled it, arranged to have it bleached and finished in commercial plants, and marketed the finished product. These converters, as they came to be called, added one more middleman to dip a share of profit out of the stream of dollars into which the cotton was being changed in its progress from bale to wholesaler, retailer, cutter and buying public.

Meanwhile came the springing up of mills in the South, nearer to the source of supply of raw material. Industrial communities were established in rural districts where taxation was lower. People went to work in the mills who had no industrial experience and who were almost a different race of workers from those in the North. The investment of Northern capital in these

Women and minors will be working tonight on long shifts in American mills which have held out from an agreement that would have cut down production by eliminating them from the night runs. The stalling of the 55-50 plan in cotton textiles shows how far our beginnings in economic self-government fall short of anything analogous in the political field; and at what disadvantage the progressive employer is placed by the breakdown of voluntary efforts at controlling production in the common interest. Mr. Kendall is himself a large operator and has been a pioneer in endeavoring to bring order out of chaos in one of our oldest industries and one of those most protected behind the tariff wall.

[1] All figures quoted are from 1929 Biennial Census of Manufactures.

Average Yearly Wages in Cotton Textile Manufacture

Compiled by Russell T. Fisher, secretary National Association of Cotton Manufacturers, from the latest U. S. Census statistics.

	1921	1923	1925	1927	1929	Hrs. per Week[1]
Alabama	$ 568.12	$ 600.30	$ 615.96	$ 641.59	$ 608.71	No limit
Connecticut	943.21	1025.81	1028.19	1051.07	993.96	55
Georgia	586.19	588.43	594.78	652.02	632.67	60
Maine	1000.06	1012.01	887.49	959.39	869.64†	54
Massachusetts	906.84	1011.08	954.06	969.63	926.10‡	48
New Hampshire	884.39	929.95	925.15	1027.32	901.89	54
North Carolina	624.25	676.73	641.26	691.23	661.93	60
Rhode Island	994.57	1073.42	1007.73	1045.61	997.49	54
South Carolina	645.41	651.98	631.60	657.84	651.86	55
Virginia	872.80	940.45	821.52	837.63	748.37	60
New England Average	945.83	1010.45	960.52	1010.60	937.81	
Av. in Cotton Growing States	659.35	691.58	661.02	696.06	660.71	
Difference Between N. E. and Cotton Growing States	286.48	318.87	299.50	314.54	277.10	

[1] Legal limit for employment of women and minors.
†Includes 3 establishments in Vermont.
‡Drop from 1927 due in part to strike in New Bedford ($700,000 loss in wages).

Southern mills, the moving of machinery—this whole Southern cycle in the industry's development is a tremendously important fact in the present situation.

There are thus many threads in the fabric of the textile industry. Its primary problems, however, are the result of failure to apply the principles of continually balancing production with reasonable sales expectation.

Back in war time, to meet unusual demand, impetus was given night-running in cotton mills, especially in the South. This habit has persisted, even though abnormal war-time demands are no more. There has been little or no restriction there of the working of women and minors at night. The net result has been that for a number of years production has exceeded consumption. Prices have been depressed below levels of fairness or commonsense. Wages have been low compared with other industry.

The appended table of average yearly wages in the industry is illuminating in this connection. These are hitherto unpublished figures. It will be noted that in 1929 the difference between average wages paid in the New England states and the average of the cotton-growing states was $277.10. It is claimed that a good deal of this difference is made up by the low cost of living

From a Letter to the President

The Hon. Herbert Hoover
White House, Washington

My dear Sir:

. . . . You have an opportunity at the present time, I feel sure, very materially to improve the conditions of the textile industry, which, as you know, have been very bad for a number of years. The cotton manufacturing industry particularly is suffering from overproduction due to three influences: style changes, which have lessened the amount of cloth used; substitution of rayon for cotton; and the great increase in productive capacity due to operating cotton mills in states which permit the working of women and minors at night. This night operation developed primarily during the war and has been increased since, through efforts to reduce cost in an industry where overproduction had already resulted in practically no profit.

These conditions are well known. They have had their influence in the labor unrest and strikes which have occurred recently and which have been focusing attention to long hours and the extremely low earnings, due in part to enforced curtailment.

The employment of women and minors at night is socially unsound and at the present time is economically unsound and is not good for the health, the standards of living, and the happiness of the workers. There have been various attempts on the part of mill owners to bring about the elimination of night operation for women and minors and the shortening of hours for some time. Concerted action has not been possible as yet.

I believe that if you should add to your group a man of recognized standing, thoroughly familiar with textile conditions North and South, and who had a broad, constructive point of view, that such a man, with the moral support given by you and your other conferees, could crystallize public opinion and secure voluntary, concerted action among textile manufacturers.

The action, I would suggest, would be to secure by mutual consent an agreement to reduce permanently the working hours per week in all textile mills to not over fifty; to pay the same weekly wage for fifty hours that was paid for fifty-four, fifty-five, or sixty, whatever schedule the individual mills operated on; and in mills that operated day and night to replace positions left vacant by women workers on the day shift with women workers from the night shift, and to replace, just as far as possible, vacancies appearing among women workers on the night shift with men.

It might be inopportune at the present time to endeavor to eliminate night running in cotton mills. It might temporarily throw people out of work. Perhaps such a move could be arrived at later. I believe that the industry as a whole would benefit from it, that it would promote new construction and at the same time would add to the cost of textiles to the consumer but a relatively small amount. The reduction of hours to a number not over fifty in any one week, would accomplish real reform. It would give more leisure and a higher standard of living. It would bring permanently a reduction in output which would offset in part the overproduction which now exists and it would raise the average earnings because for some years the industry has not operated to capacity and the workers have been the principal sufferers.

My purpose in writing this letter is based on no self-interest whatever. Our five cotton mills are all located in North and South Carolina and for competitive reasons we are compelled to operate them day and night and fifty-five hours a week on each shift. We have eliminated women entirely from one shift and successfully, and are filling vacancies in women's positions on the day shift with women from the night shift and are employing no new women on night shifts. We have found this entirely practical. *We are opposed to night operation* of women and minors as being socially unsound and night operation, *taking the industry as a whole, as economically unsound.*

The South has been under criticism for its long hours and justly so. But, through lack of leadership, in which the South differs in no respect from the North, they have not been able to bring about these reforms by concerted action. Yet, I believe they would all welcome the change if it could be brought about in all of the states.

HENRY P. KENDALL

Boston, November 1929.

in the South, one of the items in which is rent. In practically all southern cotton mill villages employes live in company owned houses. There probably is some differential in favor of southern workers because of lower living costs, but it still is true that the industry is a long-hour, low-wage industry. And the long-hour states are the lower wage states.

IN November 1929 I felt the plight of cotton textiles was such that something should be done about it. I addressed a letter to President Hoover. The excerpts from that letter (page 593) are quoted because of the subsequent voluntary action taken by the industry to shorten the work week and eliminate women and minors from night operations.

This statement of conditions and of a proposed remedy were fairly generally agreed to by the industry as being sound. The letter was passed to the secretary of commerce, who at that time was arranging conferences with business leaders in Washington on the course to be followed by industry after the stock-market crash. A conference of textile men was called in Washington. We met with the President, but when he asked us whether we had a plan we had to tell him that no plan had been prepared upon which the industry had agreed. However, from then on there was an evident disposition within the industry to "do something."

In the early part of 1930, a program of voluntary reduction of the working week together with elimination of women and minors from night running was proposed by the Cotton-Textile Institute. The Institute was organized five years ago. Its membership includes leading cotton textile companies North and South. The Institute's plan called for voluntary reduction of the length of the work week to fifty-five hours for the day run and fifty hours for the night run and the elimination of women and minors from night running. This so-called 55-50 plan was felt to be a more feasible first step for the industry than a reduction to fifty hours day and fifty hours night. The plan met with acceptance.

On February 28, 1931 the Institute announced to the mills subscribing to this recommendation that over twenty-six million spindles, comprising 83 per cent of the industry, had indicated their conformity. These percentages were based on the then figure of 31,600,000 spindles as the total spindleage of the industry. Number of spindles, in cotton textiles, is commonly used as a measure of productive capacity, for yarns spun must be woven, and cloth woven from yarn must pass through the various finishing processes before it becomes cloth for the use of the consumer. Subsequently, the Institute declared that a survey made since March 1, 1931 disclosed the fact that the curtailment policy was being pursued in over 99 per cent of the mills that had subscribed to the new schedule. There was a great deal of public approval of this accomplishment. The acting chairman of the President's Emergency Committee for Employment announced publicly in August of 1931 that the industry's accomplishments in these matters are "an outstanding example of what an industry can do by voluntary action to 'set its house in order.'" The statement continued:

> The policies which your [the cotton textile] industry has adopted have been of marked assistance in the present emergency and also will give you a working basis upon which to develop plans for a more permanent stabilization of employment.
>
> We hope that the very few mills which still persist in the uneconomic and anti-social policy of long hours and night work for their employes will quickly fall in line with your far-sighted plan.

This program during 1931 reduced stocks on hand. In other words, production was brought more into line with demand. The Institute supplies these figures on this point:

Stocks on Hand August 31, 1931

	Compared with Aug. 30 1930	Compared with 3-year August Average
Lumber	4% greater	6% greater
Paper and printing	16% greater	8% greater
Chemicals and oils (manufactured goods)	2% greater	11% greater
Non-ferrous metals (manufactured goods)	5% less	32% greater
Stone, glass and clay	8% less	1% less
Leather	4% less	5% greater
Iron and steel	10% less	4% less
Automobile tires	16% less	21% less
Cotton goods	40% less[1]	43% less[1]

[1] For comparison, August figures are quoted.

THE industry's problems have by no means been liquidated. The will of the majority was obviously in favor of curtailment. There has been a minority group in the industry, however, which has undermined the constructive effect of the so-called 55-50 plan. In a letter to Walter S. Gifford, director of the President's Organization on Unemployment Relief, George E. Sloan, president of the Cotton-Textile Institute, reported that the whole program is being endangered "by the shortsighted greediness" of a "relatively small number of mills" that "have persisted in operating long hours day and night, and employing minors on the night shift."

Some 16 per cent of the cotton mill men did not subscribe to the 55-50 plan. They are jeopardizing efforts of the entire industry to solve one of its most vital problems. These minority mills have refused to reduce running time. Instead, taking advantage of the curtailment of others, they have increased the number of weekly hours run. In some instances they have run as high as 138 hours a week. They have not eliminated women and minors from the night run, despite the fact that the United States is the only civilized country in the world where such a practice still persists. Wages in many of these mills have been reduced and, in some cases, have dropped below subsistence levels. And even with the reduction of cotton goods stocks, there has been a dangerous weakening of the price structure of the industry. This is a weakness which affects all classes—wage-earners and citizens as well as executives and stockholders. A single small mill with capacity to supply only a very small part of the total demand for its type of goods breaks the price structure of its entire class of business by cutting a price only 5 per cent. It is possible, through such practices, for a group of small companies employing a few hundred people so to depress prices that the welfare of thousands of employes is affected. In South Carolina, for example, the long hours and low wages are aggravated by the habitual cutting of a few concerns who, by undermining the price structure, lessen the income of the entire state. This is a factor in the situation which should be recognized and should be brought home vigorously if the shortsightedness and wilfulness of a few are to be curbed by an aroused public opinion.

The philosophy of the minority group is simple: They claim to believe that the struggle is a life and death one, that the weaker concerns will go under and they will survive. This point of view is fallacious, not so much because it is anti-social but because it runs (*Continued on page* 637)

Telephones

Forecasting in Public Service

By E. C. LINDEMAN

WE think and feel in terms of symbols. At the moment the industrial world is moved by the magic word "planning." Practical as well as theoretical business men seem to have discovered in this symbol a new enchantment which will, they hope, lead toward a new industrial orientation and a fresh economic revaluation.

From the practical point of view, industrial planning is expected to prevent recurrences of economic depression, and from the theoretical standpoint it is presumed to mark the end of laissez-faire, to indicate the dawn of a new and rationalized control of economic affairs. Any symbol which is capable of stirring so much hope and of initiating so much reflection in men deserves critical analysis. My treatment of the topic is to be, however, descriptive and functional. Whatever else industrial planning may be, it is not new; indeed, it has long been practiced and many of its technical and psychological ingredients are known. Analysis of the sort which is here proposed will, I believe, lead calm observers to at least one conclusion, namely that "planning" is no Aladdin's Lamp filled with magic oil and ready to light the industrial world toward easy progress. On the contrary, my chief purpose in describing one limited example of planning in one large industrial organization, the American Telephone and Telegraph Company, is to demonstrate that planning embodies one of the most difficult and complex functions of engineering and managerial skill.

I. The Problem

IN attempting to give a condensed interpretation of how planning proceeds in this company I have selected the project of converting the telephone system from manual to dial operation. This project represents a generic situation for all modern industries since it serves as an illustration of the cumulative progression from manual to machine performance. I shall follow the usual equation for problem-solving presenting first the situation which precipitated the problem and the need, second the proposed theoretical solution, and third the practical program as revealed in an evolving plan.

During the decade from 1920 to 1930 the population of the United States of America increased 14 per cent; the number of telephones increased at the rate of 85 per cent during this same period. In a period of three years the expansion of telephone use in the United States equaled that of the continent of Europe for the entire fifty-six years since the invention of the telephone. In the five-year period from 1925 to 1930 telephones increased at the rate of six hundred thousand a year. These facts, derived from independent studies of local companies and from statistical studies of national trends in business and population growth, lead to one inescapable conclusion: a civilization such as ours will need in the future more telephone service, extended over the entire 24-hour period of each day, reliable both in speed and accuracy. This glance at the future, revealing the need for more, faster, and more accurate telephone facilities, furnishes the telephone company with its initial problem: is it capable of providing such improvement and extension of the service and if so, under what circumstances?

THE significant human link in telephone communication, so far as service is concerned, is the switchboard operator. From the job-personnel point of view she is a girl of average height, not too tall nor too short; she must not have defects of eye-sight or of hearing, peculiarities of enunciation or any other speech defects; and she needs to possess a certain stability of temperament in order to adjust to the exacting conditions of switchboard operation. She should begin her vocational career as operator between the ages of eighteen and twenty-five. These qualifications imply that there is at any given time a specifically limited amount of this "type of labor" available. Would an adequate supply requisite for improvements and extensions of service be available in the future? If so, the Telephone Company might look forward with confident expectation to meeting the cumulative demands of its subscribers. If not, important readjustments needed to be envisaged. Studies undertaken by the Company's specialists involved three major factors: To what extent will the supply of operators be affected by the diminishing size of the American family? To what extent will the supply be influenced by immigration policies? To what extent will supply be conditioned by the fact that other vocations will make claims on young women of these same qualifications? The generalized conclusions from these studies revealed that reliance could not be placed on the future adequacy of supply of young women who meet the specifications, and that if the Company proposed to extend and improve its services, it would be compelled to solve its future problem in one of three ways: by employing operators who are not

Not as an obscure theory but as a current industrial technique, Mr. Lindeman writes of planning on the basis of his study of a vast, privately managed public-service enterprise, the American Telephone and Telegraph Company. The example he chooses is one which comes close home to the experience of most of us—the company's application of planning to the change from manual to dial telephones. Far from being a "magic symbol," he would have us realize that economic planning in reality embodies "one of the most difficult and complex functions of engineering and managerial skill."

Old and new: A manual switchboard (right) with every telephone call requiring an operator, is replaced when the dial system is installed by machinery (bottom p. 597) with highly skilled mechanics to tend it. The "Dial A" board (top p. 597) is used by the girl who replies when you dial "Operator"

able to meet the present standards and thus run the risk of decreasing the efficiency of the service, by enticing qualified workers from other occupations by offering higher competitive wages, thus increasing the cost of telephone service, or—

II. The Theoretical Solution

ENGINEERING skill had already demonstrated the relative potentiality of the automatic telephone and the semi-automatic switchboard. Dial telephones have been in partial use for more than a quarter of a century, and experiments and tests have been continuously in process and directed toward their further perfection. The engineer's solution, therefore, for the Company's problem was a simple and direct one: to substitute, so far as feasible and economical, mechanical for human means. In other words, mechanize—insure dependability by further mechanical operations. Thus, security for the future might be readily attained, according to the engineering formula, by converting the present manual system into a dial system. The solution sounds simple, is precisely the way most of modern industry has solved its labor problems in the past, and is in harmony with the technological evolution of the modern world. But, how could this simple theoretical solution be translated into a practical program of action? Enter, at this point, *Industrial Planning.*

III. Planning the Practical Program

THE difficulties and complexities involved in converting the telephone from a manual to a dial basis are fairly obvious. There is, first of all, the immense size of the operation; there are twenty million telephones in use in the United States. The City of New York alone has 235 central offices and switchboards. This vast system of interconnecting communication with all its varied mechanical and human inter-relationships has become incorporated into the very pattern of our culture. Serious interruption of this service would, in a sense, be in the nature of a social catastrophe. But we need not dwell upon the difficulties and complexities, most of which may be sensed even by the uninitiated. Forecasting or planning of some sort characterizes the entire managerial outlook of the American Telephone and Telegraph Company. The single day of twenty-four hours, for example, calls for a certain finesse of planning for each community and for various sections of a given community. In a large business section the central office may receive less than one hundred calls an hour between five and six o'clock in the morning, while a few hours later, say between ten and eleven o'clock, this same exchange may be called upon to handle twenty thousand calls an hour. On the other hand, the peak hour for calls in a section devoted to the transportation of incoming vegetable and fruit produce for a large city may be between the hours of four and six in the morning.

Telephone calls may thus be regarded as indicators of the life and tempo of each community and of each occupational area of any given community. A service such as this, which must be regular and continuous, needs to be conducted in terms of both short-time and long-time forecasts.

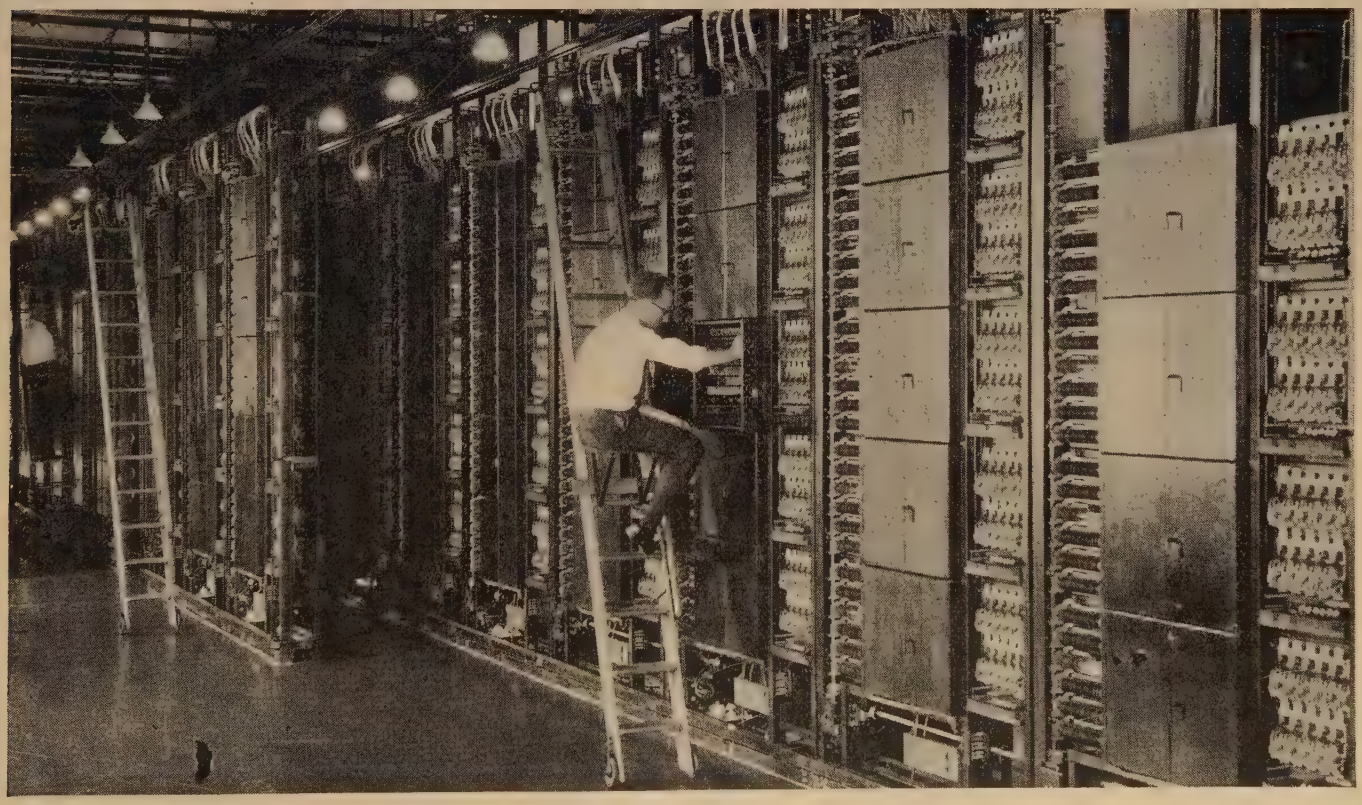
The day, the week, the month, the year, the five-year cycle, and the twenty-year period are all included in the Telephone Company's schedule of future estimates.

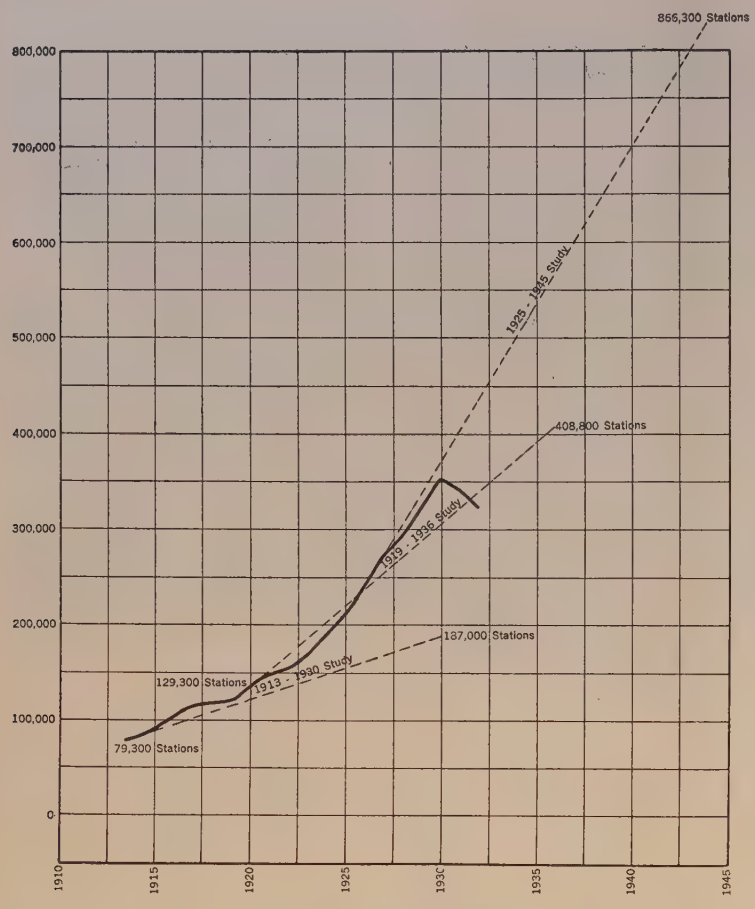
Another illustration may be inserted for purposes of demonstrating the variety and range of factors involved in forecasting the future needs of a local community. In 1916 the Bell Telephone Company of Michigan foresaw that certain industrial expansions were imminent in and near the City of Detroit. The automobile was crowding the telephone. Officials and technicians of this company together with collaborators furnished by the headquarters staff of the American Telephone and Telegraph Company thereupon set for themselves the task of forecasting the future need of telephone service, not merely for areas within the city limits still uninhabited, but for the total urban area to be included in Greater Detroit ten years hence. A ten-year plan was ultimately evolved. The intricate nature of a plan of this sort may be appreciated by considering the following list of some of the related factors. Approximate answers for the ensuing questions constituted the qualitative background

for the quantitative estimates which finally became merged in the total plan:

1. What new industries are likely to be located in the potentially desirable areas?
   How will these new enterprises be related to existing industries?
   What types of building operation will be involved?
2. What types of workers will be needed in the operation of the new industries?
   What will be the probable ratio of telephones per hundred families?
   What will be the variation in telephone use as between families of North-European and South-European stock?
3. How many dwellings will be needed in the new areas?
   What percentage of these will be detached family homes?
   What percentage of the workers will come from other sections of the city?
4. Where will shops and other community institutions be located with reference to factories and dwellings?
5. Assuming that approximate estimates may be made with respect to the number of telephones to be needed in the new areas, how much new equipment will this expansion call for?
   What new central buildings will be required?
   Is the raw material available, and is this the proper time to make purchases?
   Are the related industries capable of supplying the needed equipment within the given period of time?
6. What forms of financing will be necessary to carry out the plan?
   Is the money available?
   Is the time favorable for large-scale credits?
   What proportion of the total financing may be carried by earnings?
7. What additions must be made to the operating company's staff?
   How many new employes will be needed and of what grades?
   Is the company prepared to recruit and train this additional personnel?

This list does not include all planning factors but it is, perhaps, sufficient to indicate the variety of problems involved and the range of techniques required in forecasting which is merely of the extension type. The change from manual to dial telephones represents a somewhat different problem; in that the Telephone Company has been confronted with





THE DETROIT CHART

The telephone company's first industrial plan for Detroit was initiated in 1913 and extended to 1930. By 1920 it became obvious that the current rate of expansion was much higher than estimated and the planners were obliged to elevate their sights. The next plan began with 1919 and extended to 1936. This forecast paralleled actual growth for six years. The next plan spanned 1925-45. Again actual growth ran parallel with estimated need, until the depression caused a sharp divergence between the projected plan and the actual telephone needs of the community.

the task of not merely extending its services but in reality of altering the nature of telephoning itself as a mode of communication.

For purposes of clarity we keep the complete planning sequence in mind. The problem in introducing the dial system arises as we have seen from the fact that the demand for telephone service tends to outrun the probable supply of necessary operators (labor) procurable at a reasonable and economical wage. In addition to the demand for more telephone service there exists also the compulsion to make the service more accurate and more speedy. In brief, the telephone becomes a cumulative accessory to human communication by extending its range, by increasing its speed, by improving its accuracy, and by reducing its costs. These are interdependent factors and telephone growth proceeds along all four lines. Engineering skill has, to a large extent, solved the problem of range and one may now speak across the continent, and even across the two great oceans, as successfully as between telephones in the same city block. And with increasing effectiveness there has come about a decrease in the cost of long-distance telephoning. Speed and accuracy are always particularly limited, where human intervention is involved in mechanical processes. Consequently, increases in speed and improvements in accuracy may chiefly be brought about by further introductions of automatic devices.

The dial telephone system like its predecessor, the exceedingly complex manual switchboard, is an arrangement designed to permit one person to communicate exclusively with another person at a distance. Unlike the manual system, however, it requires only a minimum intervention by a third person in establishing the telephonic connection. The dial telephone, as at present projected, is designed for nearby calls and assumes that operators as well as other types of technicians will be needed for the completion of telephone calls to distant points. The first dial office of the type developed by the American Telephone and Telegraph Company was opened in 1921 but tentative plans for its introduction had been formulated more than a decade earlier. Actual conversion from manual to dial telephones has been partially or wholly completed in 65 cities and by the end of March, 1932 eight additional cities will be added to this list. The schedule which is now in effect calls for the consummation of the plan by 1938.

IV. The "How" of Planning

An accurate portrayal of the complete sequence of conversion would require many charts, blueprints, statistical enumerations, financial summaries, and so on. Merely to contemplate the size of the American Telephone and Telegraph Company with its twenty-one independent, constituent companies, its 350,000 employes, its 650,000 stockholders, and its 20,000,000 customers is sufficient to indicate that a detailed picture is wholly out of the question here. As a substitute I have attempted to construct a highly generalized outline. In the left-hand column will be found a selected list of major aspects of the total plan, together with brief descriptions of certain related problems. In the right-hand column will be found an enumeration of some of the disciplines of skill and knowledge needed for this sort of planning.

PLANNING THE CHANGE TO A DIAL BASIS 1921-38

Certain Steps in the Practical Program	Disciplines
1. *Producing dial telephones and switchboards.*	
This part of the program calls for the purchase of vast amounts of raw materials; first of all, it must be determined whether or not these required materials are available; then analyses of costs need to be made, and finally the material must be ordered and transported to the appropriate centers.	(a) Principles of business and industrial management (b) Mechanical engineering (c) Geology and mining (d) Statistics of raw materials
Once the problem of raw materials has been solved, attention must be turned to the various manufacturing processes required for transforming them into finished products. Since the American Telephone Company is a manufacturing industry as well as a public utility, much of this planning is internal but a portion represents co-ordination with other industries.	(e) Manufacturing capacities and facilities
2. *Making time estimates.*	
In order to carry out the terms of the plan as a whole, the work for each region and each locality needed to be estimated; this implied a time schedule for each city	(a) Engineering statistics (b) Installation statistics

and for each area and finally these were integrated with the national plan.

Additional time estimates were needed for the manufacturing processes incident to the need and flow of new equipment.

(c) Manufacturing statistics
(d) Local and regional differences

3. *Estimating financial requirements.*

Since each constituent company in the system is an independent corporation, original financial estimates had to be made on the basis of these separate units. Later estimates were combinations of these and in their totality represented the over-all cost.

Since large-scale operations of this sort usually involve the use of credits and certain refinancing, studies also had to be made of the finance and credit situation for the country as a whole and for separate regions.

Financing also includes estimated incomes from earnings for each area involved.

(a) Financial statistics
(b) Banking
(c) Credits and interest rates
(d) Economics

4. *Planning for installation sequences.*

Where should the first dial installation be made? And, for what reasons? These queries imply that some cities or regions may be prepared for the change in a manner not true of others. And, once the installations begin, what is likely to be the most effective sequence to follow? Should all the cities in a given area be converted first, or should a few key cities be selected?

The underlying factors in this phase of planning are the financial status of the local company, the commercial situation, the quality of public relationships in the given area, etc.

(a) Community studies
(b) Sociology
(c) Local company studies
(d) Efficiency studies
(e) Public relations studies (psychology)

5. *Educating the public.*

The change from manual to dial represents a sharp deviation for the telephone user. His habits are set; in fact, getting the call by lifting the receiver and repeating the exchange and the number has come to be a semi-automatic procedure with most city dwellers. To change this habit and this pattern of movements in adjusting to the dial telephone involves a number of resistances. Dialing seems, when first attempted, a much more intricate process since it involves co-ordination between the left hand which holds the receiver, the right hand which does the dialing, the eyes which watch the dial, and the memory which attempts to recall the exchange and the number. While this new habit is being acquired and the old one pushed to the background the subscriber will, probably, make more mistakes. How long will it take to effect a habit-change of this sort? What educational steps should be taken in aiding the habit-changing telephone user?

(a) Psychology
(b) Pedagogy
(c) Local differences of attitude (social psychology)
(d) Resistances to change
(e) Publicity methods

6. *Integrating the dial system with the existing system, and with probable fluctuations in the telephone business as a whole.*

As pointed out earlier in this essay, the change from manual to dial telephones must be effected without serious interruption of services. Detailed planning is required in advance for the final operation which allows the new dial telephones to "cut in" on the system as a whole. This sort of planning belongs almost wholly to the engineers and in cities thus far converted their calculations have been surprisingly correct.

But the dial system must also be related to the system as a whole in a commercial sense. Local companies need to know what the probable rate of increase in telephone usage is to be during the period of installation; they need to know how the business as a whole may be affected by unusual economic conditions during the period of installation; and they are obliged to make forecasts with respect to the consequences of the dial system on the total operating personnel in each area.

(a) Telephone statistics
(b) Population growth
(c) Economic statistics
(d) Telephone engineering

7. *Estimating the effect of the dial system on the supply and demand for labor.*

The dial system will not, as many seem to believe, dispense with switchboard operators entirely. Operators will still be needed to handle incomplete calls, long distance calls, etc. When the dial system was first installed there were 128,000 operators employed; in 1930 when approximately 28 per cent of the system had been converted to dial there were 155,000 operators employed. Operators will still continue at independent apartment-house and business establishment switchboards, and the number thus employed almost equals that of operators employed by the company itself.

Many women operators who are displaced by the dial are transferred to other types of work or are being re-absorbed in other telephone departments.

Also, and this needs to be underscored, the complicated switchboard equipment of the dial system requires the employment of additional men workers, mostly of the technical grade.

(a) Labor statistics
(b) Re-education of displaced employees
(c) Vocational guidance and training
(d) Personnel techniques

The above outline of planning factors should not be taken literally. This is merely an attempt to condense a vast amount of detailed material into a few generalized categories in the interest of clarity and brevity. Its chief aim is to show some of the involvements which flow from an apparently simple mechanical change, and to reveal in addition the kinds of skills and disciplines which are demanded by planning of this character. Glance again at the outline and you will see that at least twelve different kinds of expertness, of specialized knowledge and technique, have at some time or other impinged upon the total planning program. The task of coordinating and integrating these varied groupings of knowledge and skill in order to create a unified plan and an efficient program of action constituted a stupendous challenge to scientific industrial management.

THE American Telephone and Telegraph Company is, in one sense at least, a natural monopoly. But unlike similar utilities in other countries, it exists within a politico-economic system which allows for private enterprise on the one hand, and exercises strict governmental control on the other. The company consists of a headquarters staff and twenty-one independent operating companies; some of these constituent corporations are organized on a regional basis, some represent states, and still others are semi-local. Since each company is autonomous its affirmative interest must be enlisted in any cooperative or unifying plan. On the other hand, the national need for communication on a national basis acts as a unifying compulsion. This complication must also be considered in the light of the fact that a public utility is obliged to consider in its planning, not merely its own inner concerns but those of the public, of its subscribers, of its stockholders, and of supervisory instruments of municipal, state, and federal governments. (*Continued on page* 647)

Ingots and Jobs

By WILLIAM HARD

Cast of Characters

(In the order of their appearance)

MAGNATES
SENIOR STATISTICIAN
A YOUNG SUBSTITUTE STATISTICIAN
CHIEF ADDING MACHINE
CHIEF COST ACCOUNTANT
CHIEF ECONOMIST
WORKING MAN *(off stage)*
INGOT, *hero of the piece (Does not appear)*

Journalists, motor-car manufacturers, erectors of skyscrapers, makers of commodities.

SCENE: *The American steel industry.*
TIME: 1921 *and now.*

As a curtain-raiser, the February Survey Graphic presented Ingots and Doles by the same author featuring Unemployment in Braddock, winter of 1932.

ON New Year's Day, 1921, the magnates of the American steel industry formed a mighty New Year's resolution.

They didn't; but, as Mr. Keats says: "Ever let the fancy roam."

The magnates had read some articles on "regularization of production" by learned economists and yellow journalists. These deplorable characters, who never had managed a steel plant in their lives and who thought that open-hearth furnaces were open and that Bessemer converters were invented by John Wesley, were vastly interested in the fate of the workingman. They seldom associated with him but—or therefore—they sympathized with him strongly. They said that he ought not to be put on and laid off and put on and laid off and trained part of the time to work and eat and part of the time to loaf and starve. They said it was "demoralizing" to his character as well as extremely tough on his wife and children. They demanded "reform."

"Very well," said the magnates. "We will show these people."

They thereupon pressed a button, and in came a statistician.

"What we want from you," said the magnates, "is a straight-line trend."

"The minimum sum of the squares of the residuals," said the statistician.

"Perhaps so," said the magnates. "But, anyway, a line. A line going across a chart and showing the tendency of the past production of steel."

"But there was the Great War," said the statistician. "It upset everything. It inflated everything. It would make the line abnormal."

"True," said the magnates. "Leave the Great War out. Take the years simply from the beginning of 1900 to the end of 1914. Make us a straight-line trend that will show us the tendency of steel production during that period."

The statistician went away and worked with squares and residuals and minima and slopes. It was easy for him. That's why he wasn't making money in the steel business. He had no talents for the incalculable. He came back in two hours with a chart on which there was a straight line and a line resembling the effect produced upon a seismograph by an earthquake.

A portrait of this chart is presented on the next page. The earthquake line indicates the course that steel production actually pursued from 1900 to 1914. It indicates it by months. It indicates it for the whole American steel industry totaled.

The reader will note that each month on this chart bears a strongly individualistic relationship to the month before it and to the month after it. That is, each month seems to be a law unto itself. In December 1900 for instance, steel production was 750,000 tons. In January 1901 it was 1,000,000 tons. It went up 33⅓ per cent in thirty-one days.

Again:

In October 1907 steel production was 2,100,000 tons. In November it was 1,650,000 tons. In December it was 1,050,000 tons. It dropped 50 per cent in less than nine weeks.

This was production as practiced—and therefore practical. It meant having more men and fewer men, more men and fewer men, violently jerkily; and it also meant something else. It meant having machinery able to produce 2,100,000 tons in a month and then having it working at half of its capacity two months later.

PLANT superintendents, having discharged half of their working forces, were known to weep over the cold and idle ingot-soaking pits. There is something very moving in the spectacle of invested capital lying workless and profitless. It's like a ruin in Sicily. The thing was used. It's not being used now. You can get more sentimental about it than about the unhappy Sicilian slaves who built it. It represents, impersonally, and therefore acutely, poignantly, a multitudinous human effort accumulated and abandoned, stored and wasted. There is pathos in a shut-down plant.

The statistician felt it with all his heart. "Here's your line," he said, "your straight line, and it would have kept your plant always busy."

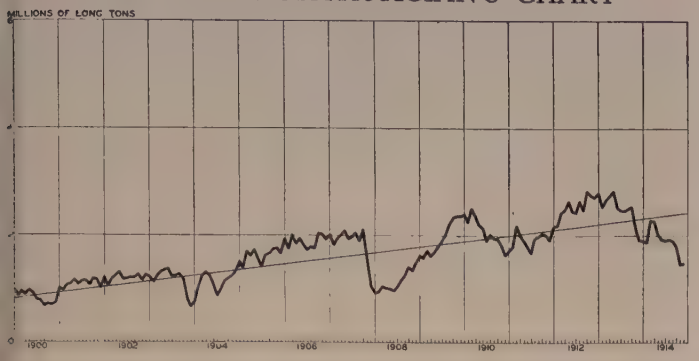
"Never mind that theory," said the magnates. "Just give us a definition of that straight line without any minima or residuals, if you can."

"Very well," said the statistician. "Here's the definition, reduced to a description, so you'll get it:

"You see that the straight line starts at approximately 900,000 tons in January of 1900. It ends at approximately 2,400,000 tons in December of 1914. It slopes straightly, evenly up from the first point to the last point. Now the moral is this:

"If you had manufactured right along that straight line from January of 1900 to December of 1914, you would have manufactured precisely the same number of tons of

THE SENIOR STATISTICIAN'S CHART



The straight line that would have kept plants always busy runs through the jagged line of actual production

steel that you in fact manufactured in the course of pursuing your jagged real-life earthquake-line of production. That's what a straight-line trend, in this instance, is. The jagged line gave you a certain total of steel. The straight-line trend gives you the same total. Only it gives it to you with an even, steady monthly rise of production, instead of with spasmodic monthly spurts and lags. It's pure theory."

"It's pure moonshine," said the magnates. "It's lunacy. But we've been attacked, and we're annoyed, and we're going to give the country the biggest experimentation in lunacy that it ever had. Have you a ruler?"

"Naturally," said the statistician.

"Take that ruler," said the magnates, "and lay it on your straight-line trend and then project that trend, still straight, all the way from December of 1914 to December of 1929. That's the line—."

"Wait a minute," said the statistician, "wait a minute. Lunacy is all right. It's more or less my trade. But this is idiocy. It hasn't even the moon to go on. We are now beginning the year 1921. In our calculations we have omitted the years from 1915 to 1920. We have called them War years. So all we have is a straight-line trend that ended in 1914, seven years ago. The War, I repeat, deranged everything. We are in the midst now of a depression caused by the War. How do we know where that depression is going to take us? How do we know that the War hasn't deranged our whole future? Be warned by me, gentlemen. Don't start your experimentation on such an antiquated straight-line trend and in the midst of such a deranged era and at such an inauspicious moment in that era. You will discredit the whole science of statistics."

"That's exactly what we mean to do," said the magnates. "We are going to take your 1900-1914 straight-line trend, and we are going to have you make a projection of it from now to the end of 1929, and then we are going to manufacture along that projection all through 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, and 1929, no matter what happens to anybody."

A YOUNG substitute statistician, taking the place of his unconscious senior, drew the projection and handed it to the magnates. A picture of it may be seen to the right.

In that picture the reader will observe—besides a straight-line trend—another zig-zag see-saw line. That second line, soaring and subsiding, represents—month by month—the steel production that actually happened. The reader will thereupon, please, for a moment, forget it.

He will please gaze intently, for a moment, only upon the straight-line trend which runs across the picture slopingly upwards.

The thing to remember about that trend, firmly, is that it is *in fact,* as stated, merely a projection. It is *in fact* the same trend as the one to which the reader's attention was previously directed. It is not a trend "fitted" to the actual steel production of the years from 1921 to 1929. If it were, the phenomenon which presently will be revealed to the reader would have no meaning. *In fact,* though, this straight-line trend, instead of being "fitted" to the actual steel production of the years from 1921 to 1929, is "fitted"only and exclusively to the actual steel production of the years from 1900 to 1914. It is a factual representation of the steel-producing tendency of the 1900-1914 period projected purely experimentally into the 1921-1929 period.

"I wish you well," said the junior statistician to the magnates, "but I join my senior in passing away from all responsibility for the outcome. I maintain that you ought not to initiate this experimentation till after the present terrific depression of 1921 is over."

"We start now," said the magnates, "because we are practical men and men of action and, when once we get an idea, we go."

So they went straight forward, on the straight-line trend of 1900-1914, all through the years from 1921 to 1929, inclusive. Each month they manufactured the number of tons of ingots demanded by the trend. It *rose* approximately eighty-five hundred tons each month. So they obediently and resolutely increased their production approximately eighty-five hundred tons each month. In the first month—January of 1921—they manufactured 3,023,000 tons. In the last month—December of 1929—they manufactured 3,922,000 tons. They increased their working force gradually—on the trend. They increased their manufacturing capacity gradually—on the trend. At the finish of 1929 they had produced, since the beginning of 1921, a certain grand total of tons of ingots.

Then they said to themselves:

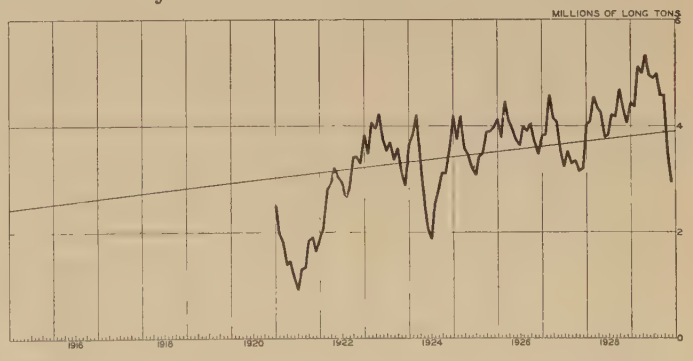
"Let us imagine what would have happened if we had gone on in the old way."

So they summoned the statistical department again.

"Show us," they said, "what we would have done if we had see-sawed and zig-zagged up and down, as we used to before we determined to teach the public this lesson."

Whereupon the statistical department simply pointed its concerted finger at the up-and-down line which neurotically oscillates above and below the straight-line trend of 1900-1914 on the statistical picture of 1921-1929 below.

THE JUNIOR STATISTICIAN'S CHART



A factual presentation of the steel producing tendency of 1900-14 projected experimentally over the 1921-29 period

That oscillating line traces the production of steel in the United States as it would have happened if our steel magnates had not gone lunatical. In other words, dropping our flight of fancy, it traces it as it did actually happen. It traces it as it happened with our steel magnates in full possession of their senses.

In July of 1921, for instance, they very practically (in the midst of the depression) manufactured only 900,000 tons of ingots. In May of 1922 (with reviving business) they manufactured 3,200,000 tons. In May of 1923 (with business booming) they manufactured 4,200,000 tons.

That is, in May of 1923 they manufactured almost five times as much as they manufactured in July of 1921.

But this turned out to be just for exercise. In December of 1923 (with business slackening) they came down to 2,850,000 tons; and in July of 1924 (with business still duller) they came down to 1,900,000 tons.

Then they rebounded in January of 1925 (on swelling orders) to 4,200,000 tons.

Then they relapsed in November of 1927 (on shrinking orders) to 3,150,000 tons.

They were then prepared for their supreme oscillatory effort. In May of 1929 (on a market of joy) they rose to 5,350,000 tons and in December of that same year (on a market of fear) they sank to 2,900,000 tons of ingots manufactured in a month.

It was certainly a wonderful roller-coaster ride. It provided the thrill of the climb, the elation of the summit, the chill of the descent, and the shiver of the abyss. It was not prosy.

"This, then," said the magnates to themselves, "is what we did in our senses. This is actuality."

"We will therefore give a dinner," they said, "and the principal speaker shall be the Chief Adding Machine. We will celebrate the demise of statistics in our industry."

SO the Chief Adding Machine was set up on the speakers' table.

And the toastmaster said:

"Give us now the grand total of tons of ingots that we manufactured in actuality from 1921 to 1929, inclusive, in harmony with business conditions, and in reasonable response to orders, and while quite wide-awake."

The Chief Adding Machine clicked and answered: 374,118,000 tons.

"Thank you," said the toastmaster. "Now please give us the grand total of tons of ingots that we manufactured in fancy from 1921 to 1929, inclusive, disregarding the convulsions of business, unmoved by the jumpiness of orders, and pursuing only the even tenor of our statistical trance."

The Chief Adding Machine clicked again and answered: 375,063,000 tons.

When these incredibly coincidental figures had been apprehended and appreciated, the room was instantly in a tumult.

"Phoney!" shouted the steel magnates with one voice. "Faked! Fairy story!"

One magnate, however, dropped immediately from incredulity to dejection and was heard faintly muttering:

"Once a genius, now only a trend."

He was revived by the voice of the Junior Statistician.

"I," said the Junior Statistician, "guarantee the Chief Adding Machine. I fed into it, every month, the figures, on the one hand, of actual production and the figures, on the other hand, of trend production. You will admit that the Chief Adding Machine can add. That's what it can do. That's all it did do. I will now myself state the whole situation in more expansive language.

"The total output of ingot-tons from 1921 to 1929, inclusive, when irregularized by production based on market demand, was 374,118,000.

"The total output of ingot-tons from 1921 to 1929, inclusive, when regularized by production based on previous long-time trend, was 375,063,000.

"The trend production therefore, in the course of the total nine-year period in question, exceeded the market-demand production, by only 945,000 tons.

"In other words, the two methods in this instance arrive at almost exactly the same output and outcome.

"I may in conclusion point out to you that 945,000 tons is at this moment the equivalent of not more than ten days' market demand and market supply.

"We are even with the game—and with the country's development—by either method."

THERE now rose before the assemblage, however, a gentleman with black clothes and blacker brows. He had saddened many other parties. He was the Chief Cost Accountant.

"But!" said the Chief Cost Accountant. "But! But! But!"

"We are saved," cried the magnates.

"Gentlemen," said the Chief Cost Accountant, "I, too, have been counting the ingots and the ingot-tons every month.

"I admit that our assumed and supposititious regularization of production has had many advantages. It has given us a more satisfied and more competent working force. Our men have known that they were going to have continuous employment and a continuous income. The bachelors among them have thereupon got married early, to the great elation of ecclesiastical sociologists. The older men among them have bought little properties and have settled down to a most admirable vegetative and anti-radical existence.

"As I look upon our pacified and amiable working force, I am filled with renewed confidence in the perpetuity of our plutocratic institutions.

"At the same time, I am obliged further to admit, as I have already intimated, that our workers now work better —much better—while at their toiling tasks. We no longer have a lot of employes whom we employ suddenly and disemploy suddenly and whom we cannot educate into being genuine professionals during their short sojourn with us. Now every man whom we employ is employed until, if I may use the language of the ordinary vulgar business world, he 'knows how.' The result is a considerable increase in volume of output per man per minute.

"I additionally admit that through our imaginary regularization we have escaped a large load of what I might call 'social costs.' We no longer have been obliged to provide 'relief rations' to employes of ours on furlough. They have had no furloughs. They have had Sundays and holidays and vacations, perhaps, but no furloughs. They have not needed 'relief.'

"Nor have we been obliged to pay 'unemployment benefits.' You realize that legislation is being rapidly forwarded

for the imposition of 'unemployment benefits' upon our industry. The precise purpose of such legislation is to make unemployment costly for the employer. By our theoretically accomplished regularization we have theoretically frustrated that purpose. Having had no unemployment, we have had no unemployment costs to add to our working costs of steel production.

"Yet it is my manifest duty to call your vigorous attention to certain other costs which our experimentation has not eliminated but on the contrary has enormously and cripplingly accentuated.

"I ask you to fix your eyes upon the chart of our actual real-life production of steel from 1921 to 1929. Notice how far it dropped beneath the trend-line during the depression of 1921. The trend-line represents our production —on paper—for regularization purposes. The line of actual real-life production represents our response to actual real-life orders from steel consumers. It represents the market.

"Accordingly, since our regularized production in 1921 was more than the market demanded, we were obliged to put some of it into storage. We were obliged, indeed, as I shall soon show you, to put a really tremendous amount of it into storage.

"We decided, as you will remember, to do our storing in the form of ingots. Gentlemen, at the end of 1921 our stored ingots were at the mountainous height of approximately 17,600,000 tons! I do not blame you for exhibiting the palms of your elevated hands in disgusted horror.

"Keep them there. The next year was even more horrifying. At the end of 1922 our stored ingots put a new peak on their mountain and rose to 21,000,000 tons. My eyes leave their sockets, gentlemen, when I try to contemplate 21,000,000 tons of stored steel.

"In 1923, I am bound to say, our storage diminished; but in 1924 it expanded again. At the end of 1924 it was swollen to 20,500,000 tons.

"Thereupon, I'll concede, the market began to eat its way into our storage. Demand became more voracious. Storage began to yield to it. At the end of 1927 our tonnage of storage had shrunk to 14,300,000. At the end of 1928 it had shrunk to 9,300,000. At the end of this year, 1929, it exhibits a bulk of only 945,000. That's nothing. It's less than a quarter of our next month's orders.

"But look back. Look at that 21,000,000 stored tons at the end of 1922. It's crushing. It's decisive.

"I'm not surprised. Our Senior Statistician warned us not to begin our regularization experimentation during the depression of 1921. We decided, of course, to begin it precisely then. We did so in order expressly to display that sort of experimentation at its most costly worst. I think we have succeeded.

"I shall now itemize that worst to you.

"First, the interest cost of capital lying idle in stored ingots! In the course of carrying ingots to our storage fields and back, we have been obliged to handle a grand total of 32,589,000 tons of them. Some ingots have stayed in storage one month. Others have stayed in storage many months. Each time a ton of ingots spends a month in storage you get, for computational purposes, a unit called a ton-month. Now listen to me! The total number of ingot-storage ton-months during the nine years of our experimentation has been—I hesitate to say it—1,528,690,000.

"Very well. Let the value of those ingots per ton be put at $20. That's reasonable. And let the rate of interest on the idle capital in them be put at 5 per cent. That's reasonable, too, I think. Very well again. Then please do the obvious arithmetical multiplyings. The answer is the interest cost of our storage whimsicality. It is $127,390,833.

"That in itself, I should think, would be enough. But there is more. There are two things more.

"The first of these two is the handling cost for conveying a ton of ingots to storage and for then conveying it back to the mill. I have put that cost at $2 a ton. That's liberal, but in line with the best advice I can get. O. K. Our handling cost then has been two times 32,589,000. Which is $65,178,000.

"Let us not forget, though, the cost of re-heating. If we let an ingot get cold, we must necessarily re-heat it. I have put the cost of re-heating it at certainly $1 a ton. That's on good advice again. O. K. again. One times our number of ingot-tons is $32,589,000.

"Thereupon let me recapitulate and conclude. For (a) interest charges and for (b) handling charges and for (c) re-heating charges our total experimentational storage-costs in our 1921-1929 trend-trial period have been $225,157,833.

"That figure, I think, gentlemen, is eloquent enough for a sufficient peroration. I thank you."

THERE was great applause among the magnates. There was also a considerable stir at the press table. A yellow—and perhaps also red—journalist lifted his voice.

"I want to know," he raspingly inquired, "what your earnings have been this year after all operating costs were paid."

"I will answer him," said a new participant in the discussion. It was the Chief Economist.

"The total earnings," said the Chief Economist, "of the total steel industry this year, in actual real-life practice, as distinguished from experimentation, were $371,118,899."

"Then the cost of your storage experimentation for nine years," exclaimed the journalist triumphantly and indignantly, "isn't as much as two thirds of your earnings for this one year. That's the lead of my story. What a headline!"

Whereupon he hurried from the room.

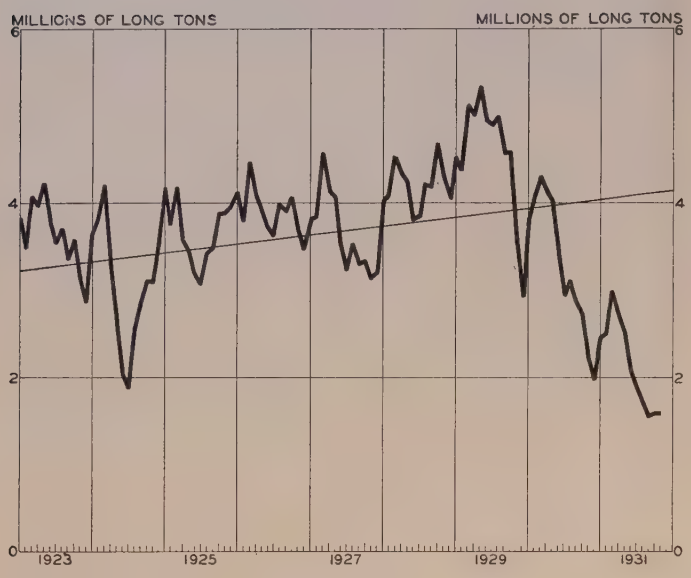
"He might have got the story if he'd waited," said the Chief Economist.

"Gentlemen," continued the Chief Economist, "my friend the Chief Cost Accountant, in the course of his otherwise irrefutable lucubrations, omitted one vital item of thought. He spoke, it is true, of the interest-charge on unsold ingots. He did not, however, speak of the interest-charge on machinery usable for producing ingots but in fact not used. That latter charge must in computational justice be adequately considered.

"Perpend, now! Under our trend-line dream-land production-regularization system we have virtually no machinery not used. We enlarge our machinery only in response to an enlarged production that will be continuous. Our interest charge upon the not yet used part of it would be accordingly merely trifling.

"On the other hand! In our actual operating life, as we have hitherto actually operatingly lived it, we enlarge our machinery to meet every transitory freakish fit of demand; and we enlarge it even beyond that fit into the scope of our frenzy of eager anticipation of some new further fit. I

FROM 1923 TO NOW



The thin line of trend production as it pierces the heavy ups and downs of manufacturing for market

have accordingly made a calculation of the consequences.

"I have taken our actual ingot-ton production in each of the years from 1921 to 1929. I have taken at the same time our actual ingot-ton producing capacity in each of those years. I have then taken also our published capitalization per ton of that capacity.

"It is approximately $60. Let us say, though, that we are over-capitalized. We deny it for some purposes. For this purpose, however, let us admit it and claim it. Let us say that we are over-capitalized one hundred per cent. Let us say that the cost of our machinery for the producing of ingots is not $60 per ton but only $30. It is a violently low estimate but, in this moment of need, let us take it.

"We can thereupon calculate, for each of the years from 1921 to 1929, the cost of our 'surplus capacity.' In 1921, while we were actually producing 19,200,000 tons of ingots, our actual capacity for the production of ingots was 54,600,000 tons. Our 'surplus capacity' in that year was therefore 35,400,000 tons.

"The Chief Cost Accountant allowed 5 per cent per annum on the value of stored ingots. I shall allow 5 per cent per annum on the value of unused machinery.

"I spare you the ensuing arithmetical details. You can appeal to the Chief Adding Machine for their verification. I shall announce to you only the grand result. It is very grand.

"Our interest charge on unused machinery in 1921-1929 real-life true-story period was $211,350,000.

"That's a beautiful peroration, too. I thank you."

The Senior Statistician took the floor.

"I rise," said he, "to protest against these proceedings *in toto*.

"It was shown by the Chief Cost Accountant that the three assembled costs of our—if I may say so—preposterous experimentation amounted to $225,157,833. It has now been shown by the Chief Economist, on the other hand, that the mere interest cost on unused machinery during our *non*-experimentation—and during the same period of time—was $211,350,000. The difference between the two sums is negligible.[1]

"It would therefore appear that the balance of argument is on the side of the experimentation. The industrial costs of the two systems seem virtually identical. The experimentational system, however, presents indubitable social advantages. Regular and stable production is only its mechanical start. Its spiritual end is a regular and stable human life. That is its end in the sense of justification. That is its end in the sense of achievement.

"I contend, nevertheless, as I contended long ago, that it was a vast mistake to begin regularization in 1921. I realize, of course, that we have been taking regularization at an extreme. We have been taking it at an extreme for illustrative and provocative purposes. Nobody truly proposes that throughout a depression we should manufacture steel—or anything else—up to the high total indicated by the production trend-line of previous years. The proposal merely is that throughout a depression we should do a certain considerable and reasonable and sensible amount of manufacturing for storage in simple common-sense reliance upon the fact that some day orders will be resumed and some day the old trend-line in its upward march will be re-captured by the march of orders.

"Such is the sum-total of the proposal when not sensationally educationally but soberly applicably advocated. I, just the same, still object to 1921 as the initiatory year.

"In a depression men's minds are too full of fear for novel endeavor. Experimentation must begin when fear has given way to confidence and courage—and even to audacity.

"I propose again therefore that we should have begun in 1923."

The press table unanimously concurred.

"Right!" it ejaculated. "Let's play we began in 1923."

"VERY well," said the magnates. "Our record proves that in a period of prosperity we can imagine almost anything. We'll manage this."

They did. This time, though, for month after month, and for year after year, there was no storage at all. See the statistical work of graphic art at the top of this page.

Proceeding to manufacture on the 1900-1914 trend-line throughout 1923, the magnates were virtually continuously below the line of real-life production. That is, they were virtually continuously below the line of actual market demand. At the end of the year, instead of facing storage, they faced unfilled orders. The unfilled orders, at the end of 1923, were 4,200,000 tons. [Keep seeing the graphic statistical verities shown above.]

At the end of 1924 unfilled orders had declined to 578,000 tons. They then proceeded to advance implacably—and painfully.

At the end of 1926 the unfilled orders of the American steel industry were 7,100,000 tons. At the end of 1928 they were 11,800,000 tons. At the end of 1929 they were 20,100,000. These results would evolve statistically irresistibly and undeniably.

[1] Ingot production is used as the basis for these calculations because all raw steel products must pass through that stage; but it does not follow that in practice solely ingots would be stocked. More likely stocks would consist principally of such intermediate products as sheet bars, rod billets, wire rods, and blooms, billets, and slabs: and of such standard finished products as wire, nails, sheets, tinplate, bars, and structural shapes. To carry the calculations into all of these products would have involved tiresome details which would not affect adversely the conclusions reached by using the broader basis. Rather, the cost of reheating ingots would be saved, and the comparative merits of trend production would be markedly greater. Moreover some of the cost of stocking would also be saved as a large proportion of finished products are placed in warehouses in the regular course of business.

The anger thereupon induced in the country was volcanic. Motor-car manufacturers demanded steel and failed to get it. The steel magnates repelled them—and rebuked them.

"We," said the steel magnates, "are manufacturing on a solid, sane trend-line. We are giving you lots of steel. We simply are not giving you excesses of steel. You cannot take the ultimate consumer's income of the year-after-the-year-after-next for his motor-car of this year. We will not let you. We are stabilizing not only ourselves but you. We are the country's basic industry. Believe us! It's going to have a base now."

THE magnates held similar conversations with erectors of skyscrapers and with manufacturers of thousands of steel-composed commodities. They became very lofty, very social-minded, very statesmanlike.

"Upon us," they said to their customers, "rests the responsibility of checking your inanities and insanities. You are only business men. We are the pilots of the ship of industrial state."

As they uttered these words, the reporters noted them chewing the cud of their grandeur with intense contentment. From contentment they went on to condescension and affability.

"Remember," they would say to their customers, "we shall fill your orders yet. Have patience. Have it, and you won't really need very much of it."

In that spirit, at the end of 1929, they addressed their customers as follows:

"In this year, manufacturing on the trend-line, we have manufactured 46,512,000 steel tons. Our unfilled orders, as you know, are now 20,100,000 tons. It looks like a colossal back-log; but, after all, it's less than half of the year's production. We have those orders of yours on our books. We have succeeded in getting your cooperation in keeping them there. We hear something now about a depression. We shall pay no attention to that rumor. We shall continue manufacturing on our trend-line and filling your unfilled orders."

Throughout 1930, therefore, the magnates continued to pretend that they were playing the game that the reporters had suggested. They continued manufacturing on the trend-line; and, with new orders diminishing, they devoted more and more of their output to the filling of their unfilled old orders.

Those orders were now extraordinarily helpful. They enabled the magnates to manufacture steel at the trend-line pace throughout 1930 with no slackening—and with no recourse to storage. At the end of 1930 the unfilled orders still amounted to 12,100,000 tons.

Not till August of 1931 did those old unfilled orders give wholly out and go flat. Not till then did trend-line production exceed the combined total of the new market demand and of the old unfilled demand. Not till then did recourse to storage become necessary.

"Well," said the steel magnates, "we've gone through a year and nine months of this new so-called depression and we are only just now beginning to feel it. We are only just now beginning to have to incur any depressional storage costs."

"Depressional?" said their customers. "What's ailing you? *There's no depression.*"

"What?" said the magnates.

"Oh, shut it off," clamored the reporters. "We see it. Naturally there's no depression. Everybody walking up the hill. Nobody running on a cloud. Nobody falling into the ocean. Everybody still just walking. We get you. You steel magnates are the cream of the crust."

"Silence!" cried the steel magnates. "You yellow journalists and learned economists make us literally very tired. You won't work. All that you do is to get bright ideas for making us work. How can we be sure to organize the industry so that competing plants will not jump in and try to supply the unsatisfied market at any time? Who's going to control credit or validate new construction? Don't you realize that there are billions and billions of technical difficulties between the adumbration of this idea and its consummation?"

"We do," said the rest of the room. "That's why we're leaving them to you. In this idea there is doubtless a thick useless rind. There is also, though, as you yourselves perhaps now suspect, an edible kernel. We commend it to your digestion."

The magnates were left mutely musing:

"*No* depression? Silly. Let's think it through, though. *Less* depression? Perhaps. Perhaps."

The Ingot, the Hero of the Piece, the playbill states, does not appear. But here are the moulds of the glowing units on which are based the trends and the actualities of the steel charts

THE GREAT CONSUMER OF ELECTRICITY

Scissors Picture by Martha Bensley Bruère

Light and Power

Planning the Electrical Future

By MORRIS LLEWELLYN COOKE

THE black curtain of the hard times is pricked through with innumerable bulbs of light. They are used by the householders, the shopkeepers and the small consumers of America. What the hard times have revealed, beyond all question, is that these small consumers make up the backbone of what has been labeled the eleven-billion-dollar electrical industry. In profit, in steadiness of demand, and in possibilities for increased business ahead, the small users have become the hope, as they are already the stabilizer of the industry.

For a generation these "lighting customers," as they are called, have been treated as second fiddle by the industry which has overcharged them, while it has played up to the wholesale users in industry and in transportation. On the basis of experience going over twenty years, I am of the opinion that the rates charged to the domestic and small commercial users are perhaps twice as high as they should be. As they represent certainly 90 per cent of the population, the political dynamite in such an unbalanced situation will be seen. But the changed status of the small users, as brought out by the hard times, points to a radical readjustment of the industry, socially as well as politically, and even to its technical rehabilitation; and is bound to be a powerful factor in any economic planning for the industry as a whole.

This is a point I shall come back to. But of course the first requisite in any planning for the future is to know something of the past. The evolution of the electrical industry since the day less than fifty years ago when Edison turned on current in the little basement generating plant on Pearl Street in New York City has involved technical advance, territorial expansion, and the upbuilding of a financial structure, each practically on a scale without precedent in the history of industry. The Pearl Street plant served fifty customers, among them the banking house of Morgan and the New York Stock Exchange, all within a radius of several blocks. Immediately all over the country "lighting" plants sprang up, each serving territory in its immediate vicinity. We had thirty such plants in the City of Philadelphia.

With the development of the techniques by which current was transmitted greater distances, the area that could be served by individual generating stations increased. Then followed a period of consolidation of companies occupying contiguous territories. By 1910 single companies supplied current to Philadelphia, to Chicago, to Boston, to Manhattan and to Brooklyn. The Great War brought with it a period of interconnecting systems under different ownerships by high tension transmission lines so that current would be available where it was needed for manufacturing munitions. In many cases these interconnections led to further territorial consolidation and expansion until today in New York State two companies, one having its headquarters in Buffalo and the other in New York City, each operating solid blocks of territory, are responsible for generating and purveying 86 per cent of the current sold in the Empire State.

RADICAL changes in the technical field have followed one after another and sometimes several abreast. The steam turbine has supplanted the steam engine. Voltages have risen from 220 to 220,000 with 330,000 and even 440,000 in the offing. The size of generators has gone from less than 100 horsepower to the 110,000 K.W. unit installed by the Brooklyn Edison Co. and the 160,000 K.W. unit now on order by the same company. Of even more sweeping import has been the change from direct to alternating current increasing the transmission distance almost indefinitely. Current in Europe is now being transmitted from a hydro-station near Innsbruck in the Tyrolean Alps to Hamburg via Cologne, a distance of approximately five hundred miles. It is being transmitted comparable distances in our own West.

Coincident with the foregoing changes there has occurred a well nigh unbelievable intensification in the uses of electricity. In the home where electricity was originally used for lighting only, ironing, sweeping, washing, cooking, heating and refrigeration have followed in rapid succession. In municipal street lighting electricity has largely superseded gas, gasoline and oil. Even in smaller communities brilliantly illuminated business sections are the rule. Already many of our interurban highways have begun to be lighted on a par with city streets. On the farm the social sequence has been lighting, then pumping and then the great life saver for our rural population, the inside bath-room with its connecting septic

Karl Marx was not enough by himself; they needed Edison. That, in terms of men and their meaning to the modern world, was the upshot of what the Russian delegates at the World Economic Congress at Amsterdam, said of the tremendous part electricity is playing in the Soviet Five-Year Plan. Now, thanks to Edison and his tribe, we are the originators of that magic lamp; but how rub it so that we can really exorcise our American djinn of opportunity for all? Director of the Giant Power Survey of Pennsylvania, member of the Power Authority of the State of New York, Mr. Cooke is an expert Aladdin. And in foreshadowing the future when current will be sold on the basis that water is sold, he gives us an exhibit of what planning means when the emphasis is shifted from speculative profits to maximum use by the people.

tank. In the barn and on the farm over two hundred uses for electricity have been listed. The yields of both milk and eggs have been increased by an adroit use of electricity to simulate daylight. In industry 75 per cent of the machinery is operated by electricity. Manual lifting has practically disappeared and marvelous new heat-utilizing processes have tremendously increased the use of current. Indeed it is hinted by economists that the availability of cheap and low cost electric power for industrial use is one of the underlying causes of the current epic world-wide depression. Specifically it is said that the traveling crane—a child of the electric age—removing as it does every barrier to production on the grand scale is one symbol of the breakdown of an industrial regime dating from the first crude stone hammers.

Then finally and embodying many untoward social tendencies there has been the development of the financial structure supporting the industry. Beginning with rather simple local corporations following accustomed lines there has come about the most gargantuan system of holding companies, not only piled one on top of the other but inter-related horizontally in myriad ways and in the minds of some with ramifications such as to elude control—invoke the United States Constitution how we may!

CURRENT COMES TO THE FARM

1. *The not-so-good old days*
2. *The K.W.H.'s are coming!*
3. *The well equipped farm*
4. *More power to their elbow*

FROM its early beginnings the business of generating and purveying electricity has been accorded monopoly privileges which through the imposition of rates carries with it the power to tax. The private industry in its earliest days was without public guidance in prescribing its own standards of service and in fixing rates. Then followed something that was called "local regulation." The city council contracted with the private companies for public lighting and sometimes bargained about maximum domestic rates. These were the days of rugged and unbridled individualism. Martin Maloney in Philadelphia, Charles Yerkes in Chicago and Patrick Calhoun in San Francisco were the spokesmen for the electric, gas and street railway interests. The scandals resulting from their negotiations with the city fathers became so malodorous that around 1907 the bargaining began to be removed from the City Hall to the State Capitol and the present system of state regulation was initiated.

State regulation has experienced two distinct stages. During the first ten or fifteen years the rates for the most part were regulated downward. The public was pleased and gradually the companies acquiesced in the system because in the great majority of cases the lower rates led to greater use and enlarged net revenues. For other reasons in no way related to regulation the industry at this time prospered greatly. The second stage in regulation came in with the era of mergers and has reached its zenith with the holding company. The situation has become very complex with the pyramiding of holding companies and with these rambling financial structures sprawling beyond state and even national boundaries. For these and other reasons state regulation only functions in spots and even there not very effectively.

In 1920 the Federal Water Power Act was passed. Shortly after its creature, the Federal Power Board, began to function within its limited scope, Senator Couzens in 1930 introduced his bill providing for the federal regulation of power whether steam- or hydro-generated. This legislation is being bitterly opposed by the industry just as state regulation was first opposed. A compromise is suggested on the basis of starting with federal supervision of accounting of both operating and holding companies. As things stand, 15 per cent and upward of all electric current generated already crosses state lines while holding companies and investment trusts are organized so that they elude state control. Until some measure of federal control can be set up the industry goes forward to ever increasing levels of

consolidation and entrenchment almost without regard to the public interest.

Paralleling in time this development of the theory and practice of regulation there has been a continuous, and in recent years a rapidly accelerated, drive for public ownership of electric facilities. Some of the earliest electric plants were owned by municipalities. There are today throughout the country probably several thousand such plants. Some of them buy their current in whole or in part from private companies. In the cities of Los Angeles and Pasadena, California; Tacoma and Seattle, Washington; Springfield, Illinois; Jamestown, New York; Holyoke, Massachusetts, and elsewhere are found fairly large and well operated municipal undertakings. A great regional project is under construction under national auspices at Boulder Dam and Congress has twice voted to devote to public electric service the government-owned hydro-electric plant at Muscle Shoals on the Tennessee River. This legislation has twice been vetoed, once by President Coolidge and early in 1931 by President Hoover.

Perhaps of even more significance are the changes actually made in the constitutions of Oregon, Washington and Nebraska, and in process of being made in Wisconsin, making possible the organization of power districts through which public agencies two or more municipalities may cooperate in providing electric service. Governor Roosevelt is pressing for similar legislation for New York. The remarkable and continuing success of the publicly-owned hydro-electric system operating throughout the province of Ontario is exerting a strong influence for public ownership in the United States. The principal pull, however, in this direction comes from our "all-the-traffic-will-bear" theory of private rates operating as it does to foist unfair, and in some cases grossly exorbitant rates, on restless domestic consumers.

It is just here that the widespread recoil of the average consumer against his persistent exploitation is reinforced by those developments during the depression that have revealed

SCISSORS PICTURES
by
Martha Bensley Bruère

his new importance. Whether he can be longer flouted politically, he can no longer be ignored economically.

Since the late nineties virtually every policy adopted by the leaders in the electrical field has been inspired by the desire to capture and cultivate the large industrial power user. The progress already recorded on this front is of tremendous social significance. Electric current is now produced both from coal and falling water at practically 100 per cent automaticity. Except as required in pushing buttons or pulling levers no human labor is involved. This is a result achieved to date by no other industry. It is due to the industry's solicitude for the large consumer that we have our present low cost of generating current—a cost including fixed charges frequently of the order of 5 mills per K.W.H. for steam generation, and of 3 mills or less per K.W.H. in the case of the better class of water powers. Boulder Dam power will be sold at the switchboard for 1.63 mills per K.W.H. This generation cost is quite low enough to meet all present social demands. Further forced reductions in generating costs may easily run counter to the private industry's own best interests.

WHILE the domestic and commercial consumers demand a relatively small quota of the current generated they contribute the lion's share of the revenues. Of the nearly nine billion dollars in revenues collected by the industry during the five years 1926-1930, these "lighting" customers contributed nearly five and one-half billion dollars or 61 per cent. They used, however, during the same period only 100 billion kilowatt hours out of a total of 334 billion kilowatt hours sold or 30 per cent. Wholesale power customers together with street and steam railroads used about 230 billion kilowatt hours or approximately 70 per cent of all the electricity produced in this country, but contributed in the same period about three and one-half billion dollars or only 39 per cent of the gross revenues of the industry.

Of vital significance too in planning our electrical future

is an understanding of the relative profitableness at present of the various classes of consumers. Here again the small consumer group is doing more than its fair share. Under current rate systems primary power users or those taking the current at high voltages and thus doing their own transforming or "stepping down" make almost no contribution to net income. Wholesale customers or plants of a size amply sufficient to warrant building power plants of their own in case satisfactory arrangements cannot be made with the service corporation secure what might be termed "black-jack" rates and therefore contribute very little to net income. Retail power users appear to pay their fair share. The profitableness of municipal street lighting varies greatly as between communities. However, when we come to the last two major groups, i.e. the so-called "lighting" customers, we find that the commercial customers contribute considerably more than their fair share to net income, while the domestic consumers contribute as a general average about twice the 7 per cent return which the law allows.

BUT it has taken the experience of the lean years 1929-1931 to make the industry discover that while the use of current in manufacturing has gone off materially the use by commercial and domestic customers has actually increased. Revenues from these ultimate consumers in 1930 showed an increase of some $50,000,000 or about 2½ per cent. Based on the record for ten months, 1931 will all but hold this gain. It is largely because these happen to be the profitable classes of customers that both gross revenues and earnings of the service corporations have held up remarkably well.

Again signs are multiplying of a growing realization within the industry itself of the tremendous possibilities for growth in the use of current in the home and on the farm. One writer in the May 30, 1931 issue of The Electrical World estimated that a home, using available electrical appliances, would consume 3000 kilowatt hours a year as contrasted with the present national average of 550. Assuming that five million homes now without service might be connected up the author concludes that there is a potential domestic market for 76 billion kilowatt hours annually as contrasted with the less than 12 billion absorbed by American homes in 1930. L. W. Morrow, editor of The Electrical World, claims a "reasonable expectancy of 8000 K.W.H. per home. In terms of dollars this means that the present annual revenue of $365,000,000 should be increased more than six-fold." Considerable color is given to such suggestions by the fact that the average domestic consumption in the city of Winnipeg, Manitoba, last year topped 4000 kilowatt hours, having risen to this figure by easy annual increments from 573 K.W.H. in 1917. We have Samuel Ferguson, president of the Hartford (Conn.) Electric Company, assuring the industry at the last National Electric Light Association convention that the home affords the industry its best field for endeavor in the years just ahead.

So from the three angles of profit, steadiness of demand even in periods of depression, and the possibilities for increased business in the years just ahead the small users—especially the domestic and rural customers—are seen as I have said to be the hope as they are already the mainstay of the industry. The question of the rates to be charged these classes becomes therefore of primary importance.

It is next to impossible under current accounting methods to know just what electric costs are and therefore what the resultant rates should be for the several classes of service. Cost-finding as practiced in other industries is all but unknown in the electrical field. Such cost *studies* as are made for the guidance of executives are used principally to protect revenues. These determinations have little or no relation to actual costs and no social significance. The industry must ultimately practice cost-finding to effect operating economies. Under the reproduction-cost-new theory of valuation, cost-finding could be practiced only with the greatest difficulty, but now that the downward drift in the price level makes prudent investment seem more attractive to the private companies the way is cleared for cost-finding. Cost-finding, for example, is required in order to determine the point at which it is profitable to prevent line losses of current, at the present time totaling in money value probably four hundred millions a year, fully half of which according to best opinion could be wisely salvaged. And further as regulation tightens, due to the growing interest in its effectiveness, the private companies will have to install cost-finding methods in order to satisfy our commissions and the public that reasonably even-handed justice in the matter of rates is being handed out.

Insofar as the statistics of the industry as published by The Electrical World may be depended upon, tendencies in rates during the five years 1926-1930 have been about as follows:

Average domestic rates have fallen from 7.00 to 6.02 cents per K.W.H.

Small commercial light and power rates from 4.50 to 4.13 cents per K.W.H.

Large commercial light and power rates from 1.50 to 1.42 cents per K.W.H.

Other rates have remained practically stationary at levels about as follows:

Municipal street lighting	4.3	cents	per	K.W.H.
Street railways	0.9	"	plus	"
Electric railways	1.0	"	plus	"
Municipal miscellaneous	2.5	"	per	"

Of course no one will be misled by averages. Domestic rates for 50 kilowatt hours per month consumption (American average for 1930 being 550) vary all the way from about four cents to twenty and over per kilowatt hour. Most of the reductions which have been made in domestic rates in recent years have been such as to affect only the large user through giving him a considerable reduction on current used in excess of a general average. This, known as a promotional rate, affects probably fewer than one out of twenty of the consumers. There has been no marked change in recent years in the price of electric service for the small and medium users.

THE growing realization that state regulation has never really regulated and in the years since the World War has provided at best meager indirect checks on the industry, is leading to a consideration of other means of social control. This was the purpose underlying the Giant Power Survey of Pennsylvania initiated by Governor Pinchot in 1923 under legislative authorization and appropriation. Its five hundred page report, an effort to cover every phase of large-scale electrical development with its myriad social implications, was the first comprehensive effort to grapple with an economic problem now generally recognized to be one of the most serious confronting the nation. Any one in planning

for the future of electricity must give serious heed to at least a few of the major and unanimous conclusions of this report.

One outstanding recommendation provided for a Giant Power Board charged with the responsibility of planning for and generally supervising the electrical future of the state. The Giant Power Board was not given any of the duties now assigned to the Public Service Commission. Representing the public as contrasted with any private interest its major task was to look ahead, to plan for the future and to encourage proposals which fit in with this future and to discourage those which seemed to run counter to it. At the last session of the Wisconsin legislature there was established such a board, made up of five members each serving for ten years, to study electrical needs, "to establish a state-wide comprehensive plan for the affording of cheap and abundant power for the farm, the home and the factory; to conserve Wisconsin's natural resource—its waterpower; to prevent unnecessary duplication and paralleling of production, transmission and distribution facilities in the state, and to build up a unified, coordinated and more economical system toward which both private and public development is to be directed." Developments in this field have been so rapid even in the last five years that a state electrical planning commission seems less adequate than formerly but perhaps even more necessary. Supplementing state agencies there should be a national power planning board.

In this matter of public agencies, it is important to differentiate between the rate- and service-controlling phases now performed by our public service commissions and the scope of proposed planning boards. For instance, in Great Britain the Central Electricity Board, established in 1925 and given wide powers under Parliamentary act to unify electric service rendered by both public and private agencies, has almost complete authority in the matter of saying what generating plants are to continue to operate or to be constructed anew. This Board has laid out a comprehensive system of major transmission lines which are to an extent publicly-owned and controlled.

HERE should be mentioned another major proposal of the Pennsylvania Giant Power Report, i.e. that transmission lines should be made common carriers. If, as is the case with the recently constructed lines in England, the ownership and control lies with the public, the question as to whether they should become common carriers is an academic one. With us, even if the arguments for making common carriers of transmission lines now in existence be waived, it might still be the part of wisdom to provide that lines yet to be built and of a major size might well be classified as such.

Those who have been instrumental in concocting the more than fifty-seven varieties of holding companies and holding company relationships that we have in the United States, none the less conceive of the possibility of one big electrical company operating at first, let us say, in such regions as that comprising the states contiguous to the Atlantic Seaboard but ultimately operating perhaps from coast to coast. They cite the case of the American Telephone and Telegraph Company and ask "Why not?" But in electrical circles there is another school of perhaps more dependable thought which feels that in the matter of mergers and consolidations and expansion of territory we have already passed the limit of effective operation in the electrical field. If this is so and if the future of the several companies lies in the intensive cultivation of territories they now possess rather than in contriving even more elaborate financial structures, then the status of high voltage transmission lines may easily become one in which private industry as well as the public may have a lively interest.

For, and this is a third important conclusion of the Giant Power Survey in Pennsylvania, it is as sure as anything in the future can be that ultimately the electricity we consume in our homes and in our factories is going to be generated at the cheapest available sources. Generating stations have been located because of all sorts of considerations which have no engineering or economic significance.

UNDER any system of state and national planning urban coal-burning stations should more and more be taboo. Where water powers are not available, the current should be generated at the mines, incidentally relieving our cities of the smoke nuisance. But such a scheme will not be feasible if the particular company generating the electricity in every instance must build, own and control its own transmission lines. As the use of current in the home and in industry becomes more intense voltages far beyond those now in use will become common. Great volumes of current will be carried great distances. The resulting major transmission lines should be made generally available to both generators and distributors of current as is the case with our railroads under common-carrier provisions.

The moment has arrived when, because of the vital interest of the small user, the driving force back of electrical development in this country must become the social need rather than solely the urge for profits. Perhaps it can be demonstrated that this end is not inconsistent with the private ownership and operation of a very large part of the electrical industry. The social aim will not, however, in my opinion be realized except by developing in various parts of the country, and some of it on a large scale, "yardstick" public ownership which in various ways will inspire the private interests to their best efforts.

More important perhaps than any other single move in effecting such a result will be the creation of agencies both in the state and in the nation which will have administrative authority on the one hand to prevent action which is either shortsighted or designed to favor too narrow an interest, and on the other to promote those moves—technical, financial, political and social—which will effect the most rapid intensification in the use of electricity, especially in the homes and on the farms.

So far the electrical industry has evaded or at least disregarded many of the social responsibilities implicit in its development. Its future conduct and growth must take into account the public good as well as corporate profits, and its structure must reckon with the principles and devices to which I have referred. Let me summarize, then, the instrumentalities which I believe are basic to the public interest in any approach to planning for the electrical industry:

First—a federal body analogous to the Inter-State Commerce Commission, to regulate those transactions in the electrical field which, growing out of the shipment of current across state borders, constitute inter-state commerce and therefore elude the intra-state jurisdiction of our state public service commissions. This body would prescribe for electrical holding companies operating in more than one state uniform accounting practices comparable to those now used by (*Continued on page* 635)

Our Economic Map

By JOHN W. FREY

THE Declaration of Independence was signed in a country established on the seaboard margin of a vast wilderness. When the Continental soldiers of Washington's army went back to their old pursuits they fished, farmed and lumbered. The fur trade of the colonies had been more important than the few extractive industries. With all their high hopes, the framers of the United States Constitution had no conception of the basic geographic conditions likely to contribute to the evolution of the modern industrial state. But men and women born during the Revolution lived to see the frontier pushed to the Pacific and the changes that ushered in industrialism. Our epoch-making material progress since has been largely due to the fortuitous utilization of abounding natural resources. Yet no equal area in the world possesses native attributes in quality, quantity and variety more amenable to planned development.

To begin with, the weather may seem outside our grasp. We may complain about it, suffer from heat or cold, floods or droughts, hail or squalls or unseasonable frosts; conditions which may mean economic success or disaster—yet for all that no other territory of equal size has more favorable climatic conditions than the U. S. A. And no one environmental influence is of greater importance in determining where man may live and thrive. It sets the bounds, in most cases, as to what crops we have for food, whether we build of wood or stone or brick; how much clothing we wear and whether of wool, cotton or flax; and contrariwise, to climate we can trace many of the diseases and pests we fight. Florida, the Gulf Coast and the coastal region of Southern California have not less than 230 days of crop growing season. As one moves northward or into the interior, the number of frost-free days is reduced, to less than 110 along the northern border as well as in most sections between the Rocky, the Sierra and Cascade Mountains. Similarly the quantity of precipitation, the season in which it occurs, and the rate of evaporation, factors of great importance in plant growth, vary greatly from certain dry interior basins to the high rainfall of the mountains in Washington and Oregon, and in the southern Appalachians.

The Fields

AS agriculture is now organized, the minimum annual precipitation for reasonable safety is twenty inches with a minimum of fourteen inches during the growing season. Map I shows that the vast area of our agricultural domain lies east of the twenty-inch rainfall lines, where most of the precipitation occurs during the growing season, and where, incidentally, with the exception of several small mountainous areas, the land is comparatively flat. Here we have the clue as to our harvests of our fields.

WHEAT, the chief bread crop of the United States, is grown by about one third of our farmers. Except for cotton, it enters into trade more than any other agricultural product. Only corn and hay exceed it in acreage; only these and cotton in value. North of the cotton belt it is usually grown in rotation with other crops; and in regions of optimum climate, soil and topography, whether it is grown depends on crop competition—on its relative profitability. Map I shows four great wheat regions. The largest yields occur in areas with an annual precipitation of thirty to thirty-five inches, but wheat is seen to be the dominant crop in two areas west of the twenty-inch rainfall line, and in ordinary years some wheat is harvested in forty-two states. In every year of our history, except 1836, we have produced an exportable surplus of wheat, typically about one fifth of production. Meanwhile our per capita consumption has declined from 226 pounds in 1879 to 180 pounds in 1928, or about 20 per cent. This represents a change in habit through which other foods have partially replaced "the staff of life." At the moment there is too much wheat, with enough slack in our wheat lands to yield much more without any expansion.

CORN is first and foremost an American crop. It is our most important harvest in acreage and value, and we produce three fourths of the world total. In every state, but particularly in the corn belt that spreads across the upper Mississippi basin, millions of farmers grow it. About one hundred million acres rustle in the summer wind, and autumn hears almost three billion bushels bang against the top-board. About 85 per cent is used as feed and the hog, cattle and poultry industries are bound up in the corn crops, so that either directly or in the form of meat and other animal products, corn is the principal source of food of the American people. The highest yields are in the corn belt, with its fertile, well drained loamy soil, flat enough to be worked by labor-saving machinery. Yet even there less than half of the land in any season is allotted to corn. Greater acreage for production would be readily available under price stimulation; and greater yields per acre are possible through mild doses of fertilizer. The future for corn depends chiefly upon the demand for meat. The problem today as in many other raw products, is that our capacity for production is beyond present market requirements.

In a thousand post-offices the U. S. Weather Bureau has taught the everyday American to study the wobbly lines that show atmospheric conditions. But for the most part adult education has stopped there; we cling in imagination to the crinkly rivers, the fuzzy mountain chains, and the jig-saw political boundaries of the old geographies. What of the United Physiographic States of America—our farm lands and the crops they grow, our timber lands, our mineral reserves and sources of energy? Dr. Frey assays these natural resources, those that are reproducible and those that are irreplaceable. His is a first lesson in what we can learn from our economic map that will help us lay the foundations for a more consciously ordered national life.

COTTON AND COTTON SEED stand second to corn in combined crop value; but while most of the corn is consumed on the farms that grow it, most of the cotton seed and all of the lint are sold, and moreover, for more than a century, cotton has been our export crop of highest value. Although the yield varies from year to year, normally we produce about two thirds of the world's total and export two thirds of our crop. Aside from its importance in textiles, practically every great industry uses cotton in some form; for example, it is to be found in tires for automobiles, belts for machines, insulations for wires. A plant of tropical origin, cotton is largely limited to regions with two hundred or more frost-free days and twenty-three inches or more of precipitation. Yet we know that we can grow more cotton. We know, too, that what we now produce annually would supply a much larger population than we are likely to have for many decades. Our cotton problem hinges on world conditions, and on the fact that unfortunately, while it remains the chief source of income for a large proportion of Southern countrysides, the cotton belt has not so far set itself to producing an alternate crop.

Taking agriculture as a whole, it is clear that we have plenty of good land as a base line in national planning. The acreage in harvested crops, very little of which is intensively cultivated, is about one fifth of our total area. In the opinion of two agricultural economists (L. C. Gray and O. E. Baker of the U. S. Department of Agriculture), the extreme physical possibility of land capable of crop use is 973,000,000 acres, or nearly one half of that total. But they warn us that we must use care and forethought in selecting additional land for farming, as population increases. Raw land is continually being pushed into the farm-land market, and this pressure to expand results in the development of "new poverty areas."

The Forests

FROM the fields, turn to the forests. We Americans use nearly half the timber produced in the world and over half of the pulp paper. We produce from two thirds to three fourths of the naval stores. American standards of living and industrial growth have rested upon abundant and cheap timber supplies. A magnificent and all but unbroken forest of old-growth timber, wonderfully rich in variety and in quality, once stretched from the Atlantic to the prairies. They went down before the bite of the settler's axe. The destruction of timber to clear lands had practically ceased by 1880, but depletion has continued and today, less than half the original forest area of the country remains and probably not more than 25 per cent of this is virgin.

Map II shows graphically what resources we had and the extent to which they have been depleted. If we had a series of maps for ten year intervals, we would see a rapid change in the forest production. For example, fifty years ago Pennsylvania exported large quantities of lumber. In 1889 it reached the peak of production, but by 1920 the Pittsburgh district alone used more than was produced in the entire state. In the Lake States the peak of lumbering was reached by 1899 and twenty years later had fallen off a third. As a result we have long hauls in the neighborhood of two thousand miles from our present major producing areas. During the last quarter-century, the per capita consumption of lumber has been cut almost in half, and for the past few years there has been an overproduction. This does not mean, however, that we have too much timber, but that certain forest-using industries are highly irregular.

One must not lose sight of the fact that the cutting of timber, devastating as it has been in many years, supplied the materials for thousands of cities and villages, the houses and barns for millions of farms, the ties, fence posts, telegraph poles and the bulk of warehouses, stations, and box cars for 250,000 miles of railway; hundreds of thousands of miles of poles for telephone, telegraph and electric power lines. It was not all loss.

But with less than half our heritage remaining, the elimination of further waste, and the conservation of forest resources must enter into our national planning. While there is no threat of immediate exhaustion of our wood supply, we are still cutting trees about four times as rapidly as they are being replaced, some of them requiring generations for their growth. And in addition to the value of forests as raw materials, they are increasingly significant as factors in flood prevention, as levelers of the run-off in water power and irrigation developments, and as recreation areas. Finally, we can employ timber-growing to eliminate burdensome agricultural surpluses and to restore millions of acres of marginal and sub-marginal farm lands to their original use.

The Mines

FARM crops and forest products have always been important to civilized man, but the extensive use of minerals is modern. The mineral production of the last century has probably exceeded that of the preceding ten thousand years. Copper, for example, is to our knowledge a metal used by man for half that period; in 1820 world production was still under twenty thousand tons; in 1929 it was over two million; and in addition to the long known minerals, a large number of newly discovered ones have come into recent commercial use, such as tungsten, aluminum, chromium and petroleum.

Mineral products have come to be as closely interrelated as are field and timber products. It was only with the advent of the energy minerals, coal and petroleum, that the metals came into their own as factors in modern life and the converse is also true. Certain minerals are important in the refining of others—as manganese in the manufacture of steel, cryolite in the reduction of aluminum. We have the by-products—a number of minerals produced in the same extracting operation; and the alloys—minerals valuable in combinations, such as copper and zinc in brass. And there is competition between minerals as between cement, brick, stone and steel in building construction.

Of all the minerals, probably the six of basic importance, are coal, petroleum, iron, copper, lead and zinc. As a nation, we produce over one third of the world's coal, over two thirds of the petroleum, considerably over one third of the iron, almost one half of the copper, and nearly two fifths of the zinc. In none of these does the combined total of the next two producing countries equal our output. But in a number of small tonnage and "ounce minerals," this country is less fortunate; and the lead in manganese, tungsten, chromium, nickel, mercury, tin, potash and asbestos, is held by other countries. Production of the common metals is pictured in Map III.

IRON in large quantities comes only from the mines along the Mesabi, Vermillion and Cayuna ranges of northern Minnesota; in the Marquette, Menominee and Gogebic ranges of the northern peninsula of Michigan; and in the Red Mountain (Birmingham) of Alabama. These deposits represent a very small fraction of the area of each state in which they are located. Our iron and steel industry, as now organized, not only draws on the ore fields but calls for large quantities of

Planning and the Constitution

By J. P. CHAMBERLAIN

BEFORE trying to fit planning into our constitutional structure, we must have some notion as to the nature of the plan to be fitted. Quite different provisions of the Constitution would come up if it were compulsory rather than voluntary.

As discussion so far has principally turned on the possibilities of a voluntary plan, let us look at that rather than deal with the thorns and brambles in the path of those who would make everyone conform to it.

The scheme, let us assume, would provide for setting up some kind of central planning board, with similar boards in the different industries. Each would prepare a plan, more or less extensive and binding upon those producers and distributors in that industry who were willing to accept it. There would be no compulsion on anybody to have anything to do with the plan once it was proposed. If, however, it was accepted by a concern, that concern would be bound to apply the plan so long as the agreement held; that is, if so provided, it would be compelled to regulate its methods of production, the quantum of production, the areas in which it disposed of its goods, and perhaps the methods of distribution under the provisions of the plan and subject to some kind of penalty if it failed. If the plan was not lived up to the penalty would be civil and not criminal; it would not result in fining the offending concern or imprisoning any of its members but in a civil action and perhaps the forfeiture of a guaranteed sum put up against such breaches of the contract.

The problem then with which we have to deal is whether such a plan is feasible under the constitutional system of government in the United States. Our first question is whether Congress has any power to enact a statute which would permit the setting up and functioning of such an innovation, for Congress is a body whose jurisdiction does not extend to whatever it thinks wise for the welfare of the country but is circumscribed by those powers granted in the Constitution. We must discover in the "Ark of the Covenant" a grant to the national legislature which would extend to a statute authorizing voluntary planning which would be national in scope. My assumption is that forty-eight state plans, even though they might be related by an annual congress of state planning commissioners, would be quite ineffective to accomplish anything worth while. It is, therefore, *aut Caesar aut nullus*: pass national legislation, or drop the whole idea.

The power to which Congress might have recourse for the purpose of justifying such a statute is its power over interstate and foreign commerce. If the project were compulsory we would at once get into a series of questions of quite another nature under the due process clause, which need not disturb us here. Let us begin by seeing how far Congress has gone in the direction we have in mind under the Commerce Clause and what further progress can be made along lines which have been pretty well marked out. Everyone will think of the railroads. One can fairly say that there is a very considerable extent of planning today in respect to them. Witness the discussions of the four- or five-system scheme for the organization of the Eastern trunk lines. The Interstate Commerce Act directs the commission to prepare a general plan of railway consolidation. The procedure, however, has been to allow the railroad executives to prepare plans to submit to the commission, which thus does more examining and approving than original planning. Overshadowing these developments in the public mind is the control by the commission of the rate structure of the country, and its power through this control to regulate the transaction of business by the railroads. Planning for the railways goes much further than the voluntary scheme which we are discussing. It has elements of compulsion and would therefore involve constitutional questions which need not detain us. For our purposes it is enough to say that the scheme of railway regulation exists to assure the functioning of the railway system of the United States as a whole, so that as the Supreme Court has said, it may be made "adequate to the needs of the country."

THIS statement brings up another question in national planning to which we must give attention for it involves the relation of national to state plans. The state legislatures and governmental organs have had their own ideas as to planning for the transportation needs of the country and those ideas have come in sharp conflict with the national railway plan laid down by the Interstate Commerce Commission under the authority of Congress. Much midnight oil has been burned by state commissions and counsel for commissions and by railroad authorities and counsel for railroad authorities, but the U. S. Supreme Court has made up its mind that the national plan must be supreme. The state schemes and state laws may not interfere with the national interests:

> The execution by Congress of its constitutional power to regulate interstate commerce is not limited by the fact that intrastate trans-

Given, not a remote Never Never Land, but the United States of America in 1932, what will we be up against in trying to dovetail planning into the jig-saw puzzle of our national and state statutes and the national and state constitutions on which they are based? Here the professor of public law at Columbia University and director of the Legislative Drafting Research Fund discusses the effect of the exercise of executive, legislative and judicial power on large-scale industrial projects and social experimentation. He finds both precedent and place for voluntary economic planning within our present legal framework.

Cartoon by Sturger. Courtesy The Christian Science Monitor

Just Where Does This One Fit?

actions may have become so interwoven therewith that the effective government of the former incidentally controls the latter. This conclusion necessarily results from the supremacy of the national power within its appointed sphere.

Thus the national plan in respect to railways can not be substantially hampered by state legislatures and state administrative authorities. The Supreme Court under the leadership of Congress has consequently reconciled the separation of federal and state powers with the practical necessities of the situation.

It may be suggested, however, that the railroads are merely instruments of commerce and that the control over such instruments does not necessarily imply any similar power over production and distribution of goods which is the main subject of planning. There is one field, however, in which we find a combination of production and distribution and means of transportation and in which federal planning could go very far. Natural gas occurs in this country in very large quantities but in a very few states; great corporations are producing and distributing this gas through interstate pipelines over wide territories situated in many states. The Supreme Court has held that a state cannot limit the use of natural gas to its own people in a case in which there had already been use made of the gas in other states. That is, the state could not stop the flow of gas outside its boundaries on the allegation that the supply was needed for use among its own people. Voluntary national planning for distribution of natural gas from the various great fields so as to secure its most economic and effective use would appear therefore to be well within the powers of Congress to authorize. The adoption of such a plan might include a regulated production among the companies consenting to the plan.

Just so with electricity. Where the electricity is part of an interstate system, Congress could authorize hook-ups between different power stations and arrangements for transmission and distribution of power under some national or regional plan which would not be bound by state lines. Here also there have been indications of desire on the part of certain states to conserve their sources of electricity for use within their own boundaries. States have been permitted to prevent the piping of water outside their boundaries where the state successfully maintained that the retention was necessary to the life and comfort of its own people. But the attitude of the court in the gas case would at least give us reason to believe that planning for electric current and gas would be quite possible on a national scale without serious interference by the state legislatures. Under the planning act companies in the business could be authorized to prepare a plan, much as the railroads are now doing, to be put into effect after approval by a federal authority.

WE must not overlook that even in planning for the railway system of the country another question has been taken into consideration. Congress, representing faithfully general public opinion, firmly sticks to the conclusion that competition is necessary even in transportation under government regulation. The Sherman Act—the federal anti-monopoly law—still remains on the statute books as a limitation on free planning in the railway field. It is still more effective in the general field of interstate commerce. As it stands, it will prevent the carrying out of voluntary planning of the sort we have defined in the production and distribution of goods in interstate commerce. The Sherman Act, however, is not part of the Constitution. It has only the dignity of a statute; as (*Continued on page* 655)

Planning to End Unemployment

By MARY VAN KLEECK

The objective of a plan for the United States should be to eliminate unemployment.

THIS was said by an official of the Soviet Union who has had a responsible part both in making and in administering the Russian Five-Year Plan. He was not discussing the pros and cons of planning. Probably he believes that planning by competing capitalists is impossible. For the United States, with its present system of private ownership even of basic resources, he was merely advocating the plan as a subject of research, and he suggested that its purpose must be to end unemployment. With that as an objective, he would map out the statistics of productive capacity of agriculture, coal, power, railroads, and iron and steel, and then trace their utilization in the ultimate uses by consumers. The question asked of all these statistics would be, how adjust them to produce continuous employment for the farmers, the railroad men, the steel workers, the coal miners, the clothing makers and the hosiery workers?

Planning is entirely a wrong idea. No man and no group of men are wise enough to plan the United States. We are suffering now from the bigness of our industries. Mass production has gotten out of hand. Our corporations are too big for wise management. What the United States needs it to take as its objective Regularization of Employment and to work toward it. Education is the only way. Each shop manager must make it his aim. Labor must come to understand its importance, and each community must reinforce the efforts of management and labor.

This was said by a leader of public life in the United States. The two remarks were made in two different conversations, months and miles apart. These two leaders in two different economic systems have never met. They are alike in devotion to the public interest and in their scientific approach to problems of public welfare. They would differ in their views of the economic system. One believes in socializing the means of production and administering them for the people as a whole. The other believes in individual ownership coupled with a liberal program for social justice as embodied in programs of social legislation and enlightened management, with the public interest as a ruling motive and education the guide for action. But both agree the first and primary task before the United States is to end unemployment.

Statistics are available to give us the dimensions of the problem. Since 1914 the Federal Bureau of Labor Statistics has collected month by month reports from manufacturing establishments, and more recently from other industries, showing the numbers on the payroll and total earnings. Chart I (page 619) gives the picture as drawn by Dr. William A. Berridge for the 1931 World Social Economic Congress, held at Amsterdam last summer.

Observe how both the number of jobs and the total earnings move up and down in big and little waves. This has been going on since 1919 and could be matched by ups and downs in previous years. The two leaders just quoted have proposed nothing less than the straightening out of these curves, letting them move up as industry grows and wealth increases, but not down, into unemployment.

Another picture needs to be coupled with this one, to bring out its full meaning. Chart II gives a curve of the money income, which is identical with "volume of income" on the first diagram, and then translates it, in terms of cost of living, into a curve of "purchasing power." Sometimes one may have more money in one's purse, but it will not buy more goods. Between 1919 and 1921 "money income" rose higher than "purchasing power." The cost of living was soaring in those years, and increased wage rates did not so greatly increase the workers' purchasing power.

It helps to get the significance of these two pictures if it be remembered that in the first chart the heavy line labeled "Number on payroll" is not merely a diagram of numbers, but that the numbers are a count of human beings and the dotted line shows their pay envelopes. When the curve goes down it means that some have been laid off, and usually also that the pay envelopes of those who are left are thinner. These earnings are the symbols in money of the wage-earners' share in what they have produced in the industries included in "factory employment," such as food, textiles, iron and steel, lumber, leather, paper and printing, chemicals, stone, clay and glass, metals, tobacco, automobiles and car-building, with their many subdivisions. The money which these men and women take home as their share of these products is by them and their families turned into housing, food, clothing, recreation, education, taxes and all the other concrete items which are summed up in the phrase, "standards of living."

What should we plan for in the United States? What will make our plans go? Both the objectives and the motive power in American planning are illuminated by Miss van Kleeck in exploring the implications of her theme. It was not by accident that the chief of the Department of Industrial Studies of the Russell Sage Foundation was vice-chairman of the World Social Economic Congress called by the I.R.I. in Amsterdam. The human stakes social workers have long striven for are caught in the vortex of the industrial depression; they are bound up in our purposes in planning. "Employment," she points out, "is not merely the chance of an individual to work. It is the source of his standard of living; and in turn its continuity is the measure of the balance between production and consumption."

Employment, then, is not merely the chance of an individual to work. It is the source of his standard of living, and in turn its continuity is the measure of the balance between production and consumption. In other words, if regularization of employment be taken as our economic and social objective in the United States, then we must watch our payrolls to keep jobs steady, and watch also both the income and the outgo which constitute standards of living. The outgo is affected not only by the pay envelope, but by its purchasing power. Buying power in turn is influenced by the value of the dollar, which financial policies, partly governmental and partly private, can affect. And purchasing power is determined by prices, which reflect the quality of management of both production and distribution.

But the curves in these pictures include many branches of industry. They even tend to be more regular than is the actual lot of the workers in the separate trades. The statistics may neutralize each other when they are combined, the busy season of one trade offsetting the lack of employment in another, without, however, compensation for those whose lot is thus concealed in statistical combinations.

To get a clear picture of what is involved in attempting to insure continuity of employment in the United States, we must have perspective and we must look at the various major industries. We must study the curves before the year 1929, when the crash in the stock market brought the country face to face with depression. Signs of it, however, had begun to appear already in these monthly statistics of employment and earnings.

Consider the railroads, for example. In the period between 1920 and 1931 the average of 1923 was the highest, with an index number of 104.1. Not since July 1927 has the normal 100 been reached in employment of railroad workers. January 1928 was down to 89.3, and September 1931 to 69.3. Measured in numbers instead of indexes, 2,000,000 employes on Class I railroads in 1920 had become 1,300,000 in the first six months of 1931, but even in 1928 the number had fallen to 1,650,000 (in round numbers, based on data given by Daniel Whiting in Wages of Railroad Labor, Editorial Research Reports, Vol. II, 1931). Apparently the railroad workers suffered before the amount of freight declined. Apparently, improved equipment enabled the railroads to do as much work with fewer employes. Men laid off from the railroads were, however, less able to purchase the goods of other industries. Thus before the stock exchange collapse of 1929, a process had started of laying off superfluous workers, not because they were inefficient or because they were finding jobs in other occupations, but because the railroad system could do its work without them.

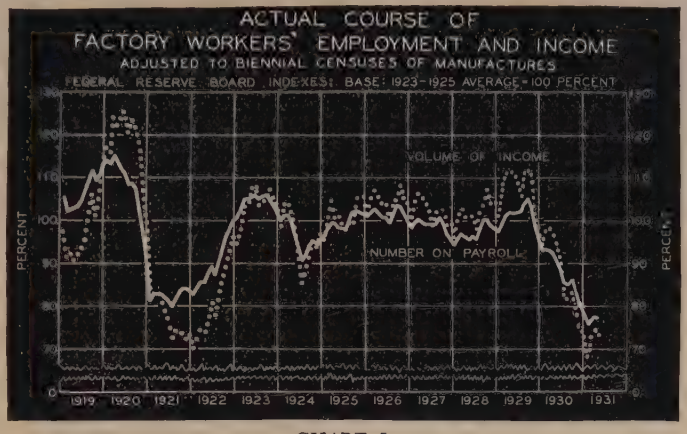

ACTUAL COURSE OF
FACTORY WORKERS' EMPLOYMENT AND INCOME
ADJUSTED TO BIENNIAL CENSUSES OF MANUFACTURES
FEDERAL RESERVE BOARD INDEXES: BASE: 1923-1925 AVERAGE=100 PERCENT
VOLUME OF INCOME
NUMBER ON PAYROLL
PERCENT
1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931

CHART I

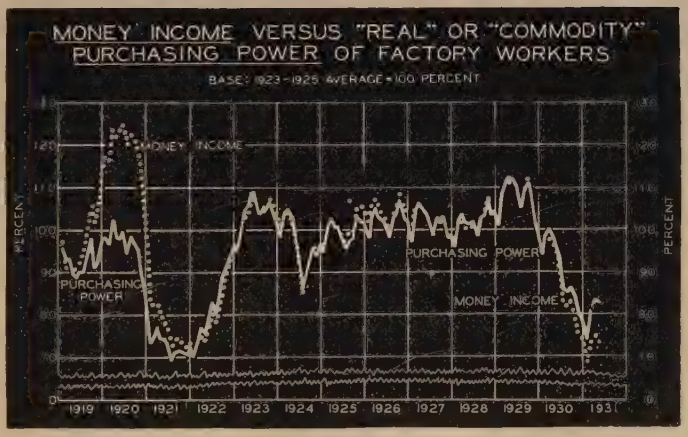

MONEY INCOME VERSUS "REAL" OR "COMMODITY"
PURCHASING POWER OF FACTORY WORKERS
BASE: 1923-1925 AVERAGE=100 PERCENT
MONEY INCOME
PURCHASING POWER
PURCHASING POWER
MONEY INCOME
PERCENT
1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931

CHART II

Consider agriculture. It provides food for the urban wage-earner and depends in part upon what he can purchase. It gives employment to more breadwinners than any other industry. The President's Conference on Unemployment in 1921 said of it: "This industry provides more than half of the raw materials used in manufactures, furnishes approximately 50 per cent of the gross freight revenue of the railroads and makes a consumers' market for 40 per cent of all manufactured goods."

The same report described the plight of the farmer at that time in these words:

> The prices received by farmers enable them to buy only about half as many manufactured products at the prices asked as they purchased in normal times. The purchasing power of the farmer has been so greatly reduced that he is not buying his usual supplies. He cannot. In the case of farm implements, the purchases have been reduced to one third of those bought in previous years. Many farmers have lost their savings of a lifetime. . . . The farmer cannot continue to exist on the present basis. His share is too low, or others are receiving too much. A lessened agricultural income has slowed down all lines of business. General prosperity cannot return until agriculture, by far our greatest productive industry, resumes normal conditions.

In the month of January 1932, somewhat more than ten years later, the Department of Agriculture reported:

> Farm employment is at the lowest level since the records were started by the Bureau of Agricultural Economics, thirteen years ago, and farm wages, January 1, had declined 12 per cent since October 1 to 98 per cent of the pre-war average, with numerous laborers working for food and lodging only. . . . The demand for farm hands is only 60.5 per cent of normal, and the supply is 120.9 per cent of normal, making the ratio of supply and demand 199.8 per cent in the Bureau's index.

Turn now to coal-mining. In 1923 the average number employed in the mines was 860,000 (in round numbers). By 1929 this had fallen to 654,000, or 24 per cent. The decrease in bituminous mines was 28 per cent. This was before the present crisis, and represents the well known surplus of miners in the overdeveloped bituminous industry. It is reflected in part-time employment, high costs of overhead administration, high prices, and constant conflict in this disorganized industry. What is to be done with the surplus coal-miners? Are they to be transferred to agriculture or

to railroading, or is the surplus in those two industries already a problem?

What of consumers' goods? It was the purchase by wage-earners of extraordinary luxuries such as automobiles, radios and silk stockings, which led to investigations by foreign visitors and books on Golden America. The Federal Bureau of Labor Statistics tells us, in its report on Trends of Employment and Labor Turnover in November 1931, that the decline in employment in that month, as compared with the same month in 1930, was 41.7 in radio, 20.1 in jewelry, 15.2 in silk goods, 17.2 in women's clothing and 26.5 in automobiles.

INSURING continuity of employment in the United States has two aspects. One is to make employment regular in the industries, and the other is to transfer superfluous workers from one industry to another if it has grown too big in proportion to a normal demand. Obviously at the present moment, with general industrial depression, the opportunity for transfer is very limited. But the figures quoted during the period of supposed prosperity indicate simultaneous declines in major industries, even in good times, which would make transfer a difficult problem.

The task set before us by these two leaders of thought in two countries, to regularize employment in the United States and to end unemployment, does not appear to be a simple one. Yet apparently it is the very center of the present economic depression. We are in an era when the rich resources of the country can be utilized to a degree never before experienced. Ours is a country of surplus. If farm machinery, added to rich lands, can solve the problem of food supplies, we need fear no hunger. Yet these curves of declining employment have turned into breadlines in the large cities, and those urban workers who in large numbers have returned to the country find that agriculture has no room for them. Our difficulty is not lack of wealth or power to produce it, but lack of purchasing power; that is, standards of living have not been maintained at a level which balances consumption with production. Continuity of earnings, even more than a maximum wage rate, is seen to be the basic need; and the next step, in establishing in the United States the standards of living of which we had begun to boast, is to make the job steady.

But will steady jobs and higher standards of living in the United States take care of our surplus? Or are we also affected by the standards of living of wage-earners in other countries to which we sell goods? Theoretically, we have the choice here of limiting our markets to our own country and thus becoming truly self-sufficing. But if we limit our markets, we must also limit our investments. Currents of money and currents of goods have so opened channels of influence between us and other countries that in a very literal sense the task of insuring continuity of employment in the United States demands also attention to continuity of employment and proper standards of living in all the countries in which we invest or which buy our products.

The importance of our foreign trade in its effect upon employment was recognized by the President's Conference on Unemployment in 1921. In the report of its Committee on Foreign Trade, it was pointed out that the volume of goods exported from the United States was estimated as roughly about 10 per cent of the nation's production. Several industries, however, exported a much larger proportion: for example, rice, 53.2 per cent; cotton, 61.5; hops, 72.5; copper, 51.5; and wheat, 23.5. But regardless of the proportion exported, the report said:

> A small surplus of production over demand for consumption fixes the price of the entire amount produced. . . . The country's production being 10 per cent in excess of domestic requirements, this surplus must either be marketed abroad, or reduction of prices will result and cause a corresponding reduction in the amount produced and result in further unemployment.

No policy between nations, therefore, can be overlooked, since even measures regarded as purely political inevitably have their effect upon economic life in a world of such close interdependence. War debts and reparations politically developed are a prime cause of unemployment. It may be said without exaggeration that our unemployed are in part paying the debts of the war. The point need not be elaborated further by comment on the effect of the tariff on the producing power of the farmer's dollar, or on costs of living for everybody else. Nor can disarmament be overlooked in its economic aspects.

What, then, is involved in a plan for continuity of employment in the United States? Shall we find out the least food upon which the population can live, and advise the farmer to destroy all the rest? Shall we ignore the need for shoes, and curtail the production of leather? Shall we increase crowding in city housing, and give manufacturers of building materials freedom from the Sherman Anti-Trust Act in order to keep down production? Or shall we suggest to the farmers and the railroads and the power industry and all the rest that their development, in the last analysis, depends upon higher standards of living and regular employment for the "ultimate consumers," which means everybody? Limiting production and maintaining the level of prices which is expected to yield the desired profit is not a big enough aim for industry. Modern industrial development depends upon getting purchasing power steadily and without fluctuations into the hands of wage-earners. This is the problem of the United States, not only within its own borders but as the leading creditor of the world.

CAN the United States thus plan to sustain and lift our standard of living without any fundamental change in the control of industry? In 1921 Mr. Hoover wrote an introduction to the report of his Committee on Unemployment and Business Cycles, appointed after the President's Conference on Unemployment:

> The report does not suggest panaceas or economic revolution, but seeks to drive home the facts that the enlargement of judgment in individual business men as to the trend of business and consequent widened vision as to approaching dangers will greatly contribute to stability, and that the necessary information upon which such judgments can be based must be systematically recruited and distributed.

But the history of economic depressions in this country since those words were written does not promise much for "the enlargement of judgment in individual business men" as the way out, despite the fact that this philosophy has had its chance for ten years in the federal government, and that leaders of business subscribed to the report. Planning is more than a piece of research or the regular dissemination of statistics. It is more than the giving of orders from a central bureau. It involves a new spirit, a new technique and a new method of control of industries in their interrelationships. This is the problem (*Continued on page* 638)

WORLD PLANNING & THE U.S.A.

By OTTO NEURATH

"WHAT do you mean by a crisis?" asks a man from Mars. At first he would not understand us if we tried to tell him what unprecedented confusion results when, in a space packed with shouting human beings and called the "stock exchange," certain numerals on a board dwindle day by day. It would be difficult to describe to him even the gold panic. How explain why men, in the words of a clever Englishman, circuitously transport yellow metal from a hole in Africa into another hole in Paris? Our many conflicting theories about money and credit would help but little. Security prices, commercial paper, commodity prices—these are complex things.

But a man from Mars would be quick to grasp the significance of shelter, food, clothing, books, sports and the like. Nonetheless we should be forced to admit to him how in every age men have produced less of these things than it was possible to produce; and how, meanwhile, they have permitted capable workers to suffer and even starve, although grain and corn were burned in the fields, factories closed, mines dismantled, and ships allowed to rust at their moorings. Unable to understand the complicated structure of our economic order, the Martian would note in his diary: "At the moment these fellows are strangely mad. They go hungry in the midst of plenty, and they call it a crisis." In order to escape his conclusion our Martian will perhaps decide that mankind has fallen under some magic spell. With this hypothesis he comes nearer the truth.

For many centuries the primitive intelligent creatures of the earth have been obeying the dictates of the sacred multiplication table of

If the peoples themselves are going to choose what is to be done with our complex modern world they must first enter into an understanding of it. Dr. Neurath has gone back to picture writing to give democracy its key. He limns the earth, and the fulness and discrepancies thereof, not with Kipling's brushes of comet's hair but with those techniques of visualization that have made famous his Social Economic Museum in Vienna. So far as we know the graphs prepared especially for this number are the first in the "Wiener methode" to be reproduced in America. Across the familiar map of the U. S. A. above, he has dropped seven columns which stand for world production in automobiles, films, oil, steel, copper, corn and cotton. As shown, we turn out more than half of each.

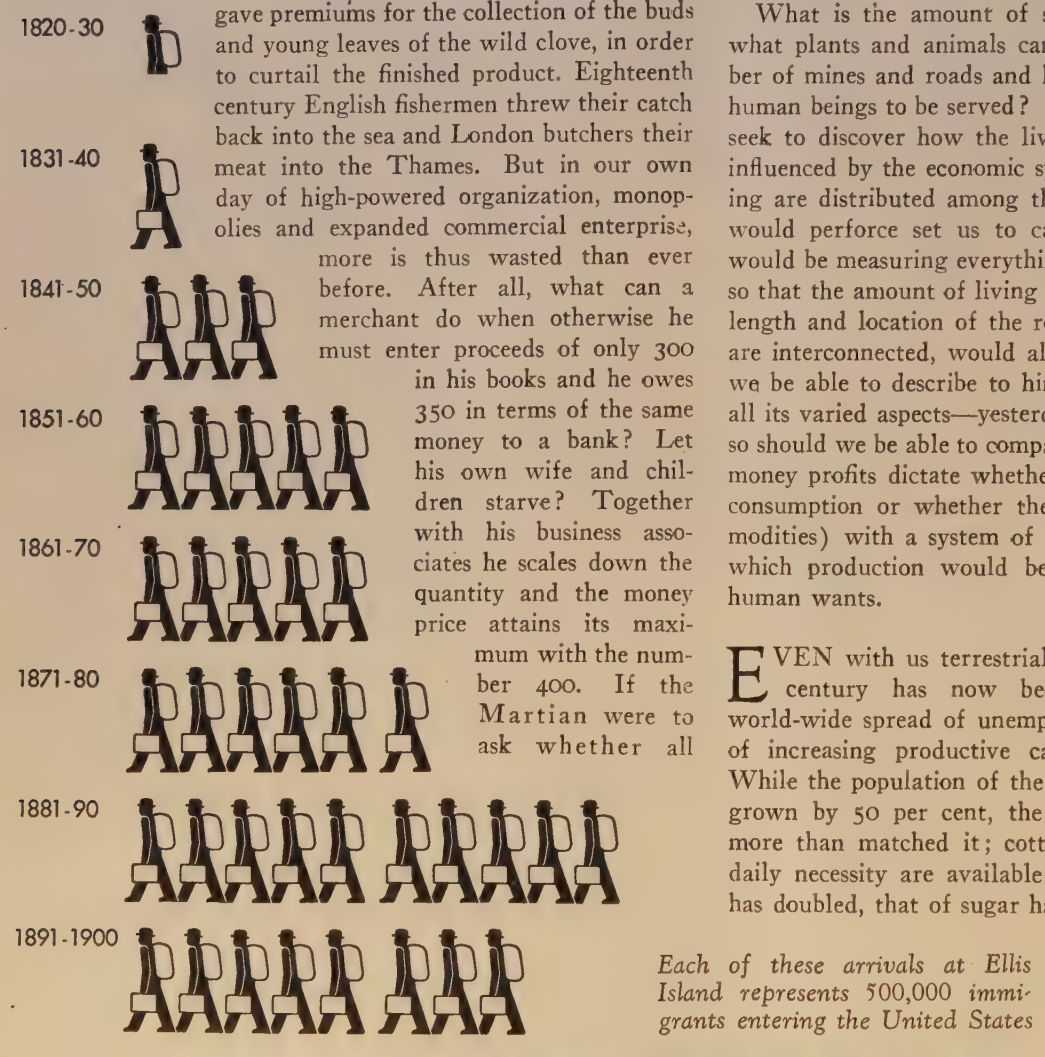
commerce. The traditional procedure, recognized even by those who suffer under it, is this: When, through the bounty of nature, a commodity reaches the markets of the world in ever-increasing amount, those who produce or sell it, begin to calculate:

If the quantity be 100 and the price 3 the proceeds are 300 in money.

If the quantity be 200 and the price 2 the proceeds are 400 in money.

If the quantity be 300 and the price 1 the proceeds are 300 in money.

The figures are studied. If 300 quantities yield in money less than 200, then 100 are cut out, so that the proceeds reach the maximum. This has been the practice for centuries. In their day the Greeks burned currants; the Dutch gave premiums for the collection of the buds and young leaves of the wild clove, in order to curtail the finished product. Eighteenth century English fishermen threw their catch back into the sea and London butchers their meat into the Thames. But in our own day of high-powered organization, monopolies and expanded commercial enterprise, more is thus wasted than ever before. After all, what can a merchant do when otherwise he must enter proceeds of only 300 in his books and he owes 350 in terms of the same money to a bank? Let his own wife and children starve? Together with his business associates he scales down the quantity and the money price attains its maximum with the number 400. If the Martian were to ask whether all mankind believe in this magic, we would be constrained to answer, yes, except for a few South American Indians who shoot poisoned darts through blowpipes and have never heard of it, and for the inhabitants of the Soviet Union who have given it up.



Each of these arrivals at Ellis Island represents 500,000 immigrants entering the United States

Gesellschafts- und Wirtschaftsmuseum in Wien

RESTRICTING IMMIGRATION DOES NOT PREVENT CRISES

Only gradually would it dawn on the Martian that entrepreneurs and bankers acquire advantages under such a system and exercise their power to uphold the force of the old magic. Learned professors might be called upon to tell him how the "national wealth" is growing in spite of these things, and how "national income" must be reckoned in order to make comparisons possible. But, distrustful by now of a method of calculating in terms of money, the Martian might insist on considering earthly creatures as if they were ants or bees and inquire as to their means of subsistence.

What is the amount of standing timber, he would ask, what plants and animals can serve as food, what the number of mines and roads and houses, and what the number of human beings to be served? Next we may imagine he would seek to discover how the living conditions of humanity are influenced by the economic system; how food, shelter, clothing are distributed among the various classes. So doing he would perforce set us to calculating in kind; that is, we would be measuring everything in terms of its specific utility, so that the amount of living space, the quantity of grain, the length and location of the roads, the manner in which they are interconnected, would all be indicated. Only so should we be able to describe to him the real livelihood of man in all its varied aspects—yesterday, today and tomorrow. Only so should we be able to compare our present system (in which money profits dictate whether there shall be production and consumption or whether there shall be restriction of commodities) with a system of "functional economics" through which production would be organized to meet expanding human wants.

EVEN with us terrestrials, the paradox of the industrial century has now become appallingly clear. The world-wide spread of unemployment has occurred at a time of increasing productive capacity. Malthus was wrong. While the population of the earth in the last fifty years has grown by 50 per cent, the actual production of food has more than matched it; cotton and other raw materials of daily necessity are available in abundance; the potato crop has doubled, that of sugar has multiplied. Continuously we turn out new machinery of greater capacity. Yet today, with all this production slowed down on every continent, millions of workers have no opportunity to earn and buy the means of existence for their families.

The trouble lies in organization. How is one to understand the history of it, much less the means for overcoming it? How to grasp it for ourselves, much less explain it to a Martian?

The paradox is not confined to any one region, and

he first necessity is a world survey of capacity for production, actual output, and real consumption. We need a quantative analysis of agricultural land and its productivity hrough the use of our best machinery; of sources of raw haterials and of power of every kind; of labor power and f every factor which can ave technical significance for otential production. And hen we must delineate the tandards of living of the opulation. These levels will ecome clearer to us when we easure housing, food, cloth-ng, education and the ameni-ies of life which are available or different classes and also nalyze rates of mortality, of norbidity and other gauges f well being.

Essential to the task is the development of universal statistics which will give an inclusive picture of both production and standards of living on the basis of estimating, interpreting and assembling data. Today this task insofar as it is attempted by private institutions is dependent on official and non-official publications which as yet are without any adequate international standards. Historically the first decisive attempts toward a general statistical system are to be found in the official records of enlightened absolutism. Mercantilism wished to influence production and consumption by state action, and therefore, in that era there were national statistical surveys. The French revolution, however, brought liberalism which was opposed to all state interference; official statistics suffered a set back and later business secrecy resisted investigation. Only now do we begin again, under spur of necessity, to develop statistical reports of extensive scope with the help of governments or of great corporations of a semi-public character. These last, however, emphasize business trends rather than improvements in service to consumers. The profit measure is highly developed with its business-cycle curves which primarily follow the conventional money-measure. Our example in commercial arithmetic has shown how with production steadily expanding it is possible for the money value to increase at first and then to diminish after reaching a maximum point. The market value of goods produced in any period may be increased by lessening their total just as in antiquity papyrus plants were thrown down, and now wheat is burned in order to get greater returns from what is left. For measuring real economic values, we must work out new and special methods. Only piecemeal calculations are, as yet, available and in particular there is nothing more misleading than the favorite average of consumption.

Now in modern times machinery and business technique have taught us to realize the importance of the decimal in factory work. Research into trade conditions has made us familiar with the slightest variations of the curves of the market. But the fluctuations in the fate of millions of human beings are not adequately taken into account. The statisticians themselves are lacking the necessary power which is derived from a clear and precise statement of the problem. What is required is to show on a world scale the discrepancy between productive capacity and standards of living and to make people aware of it.

For Malthus was mistaken all along the line. Actual consumption increases more slowly than production; actual production does not reach productive capacity; actual productive capacity lags behind potential capacity.

Our actual productive capacity is constantly on the increase. Old machinery is improved technically, scattered production is concentrated, new industries are started. But not only does production remain far behind productive capacity but minimum production is often only a fraction of maximum. This indicates that under present conditions, profit, price, ability to buy, credit and interest are so closely connected that there is constant under-consumption as against productive capacity, and in times of crisis, this shrinkage is especially notable. Under-production and under-consumption mean mass unemployment with, as result, still further under-consumption and deprivation among the workers.

In this situation, production is cut down, perishable goods are destroyed, or allowed to rot, and an increasing share of the output of metals and cereals whose disposal would depress prices is laid up in reserves. For in modern times, our capacity for storage has also mounted. Of the world harvest of wheat in 1930-31 twelve million tons, an eighth of the total, were handled in this way, or roughly the equivalent of the combined crops of Canada and the Argentine. Just so reserves of sugar, coffee, cotton, rubber, cocoa and all metals have increased. Coffee is improved in quality by storage and a quarter of the annual crop is usually set aside; but at present there is enough coffee stored to furnish consumption for an entire year. And yet this does not register our ability to produce coffee as many plantations are purposely allowed to grow wild, and their present area, used

MALTHUS WAS WRONG

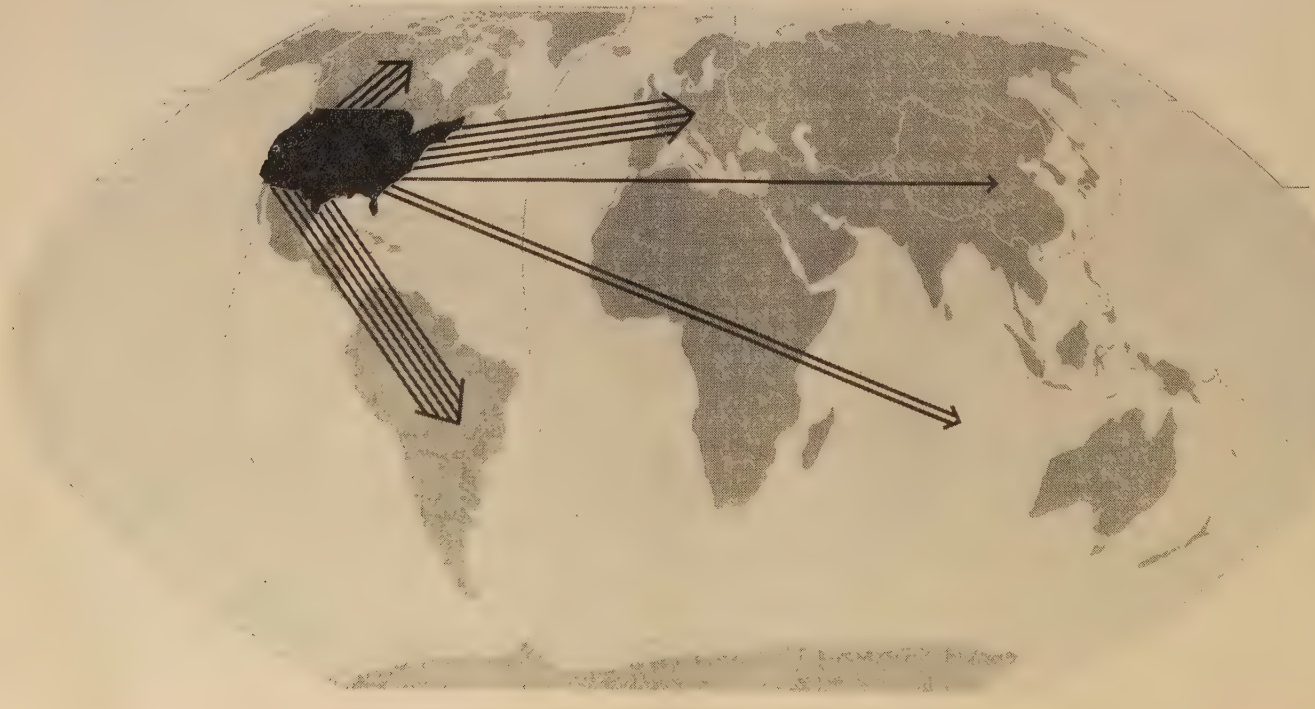
The population of the earth in the last fifty years has increased 50 per cent but commercial production of cereal, sugar, cotton, metals, transportation has far outstripped it

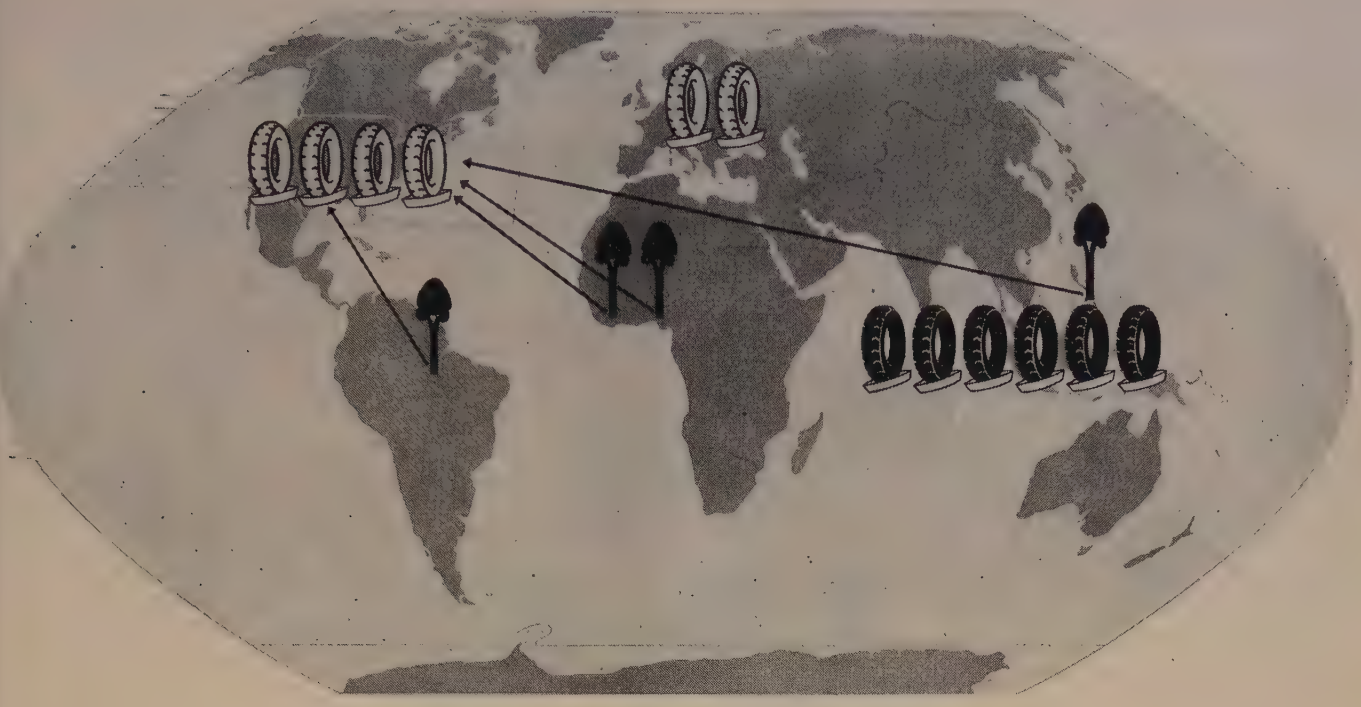
MAP I. STILL ROOM FOR ENORMOUS HUMAN EXPANSION

Every black figure stands for a present population (1930) of 100 millions; every white figure stands for potential support for 100 millions more. The cogwheel men live at the modern industrial level; the hammer men at the old handicraft level; the bow and arrow men at the primitive level

MAP II. AMERICA'S STREAM OF CAPITAL

Every arrow line stands for a billion dollars in long-term credits (including government bonds) representing United States investments in foreign countries in 1931



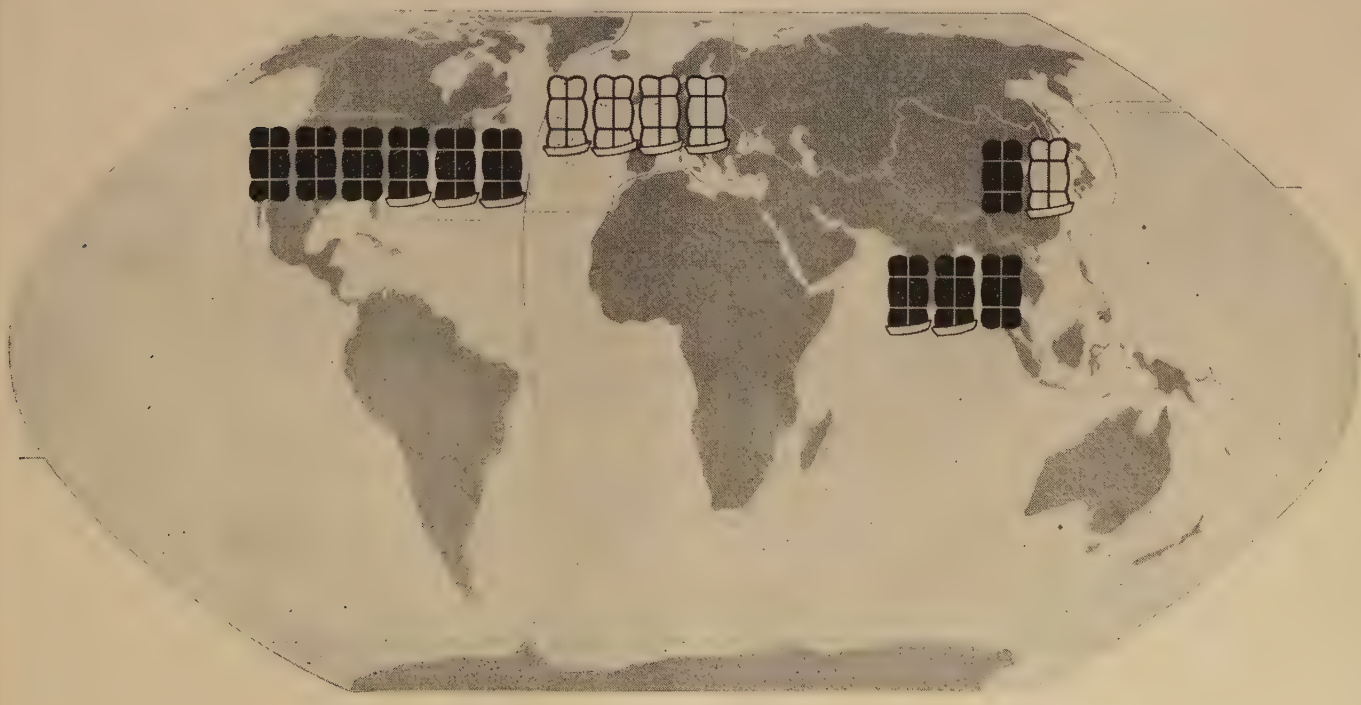


MAP III. FROM ONE RUBBER CRISIS TO THE NEXT

Every black tire stands for 100,000 *tons production of native and cultivated rubber; each white tire represents* 100,000 *tons consumed by American and European industry. These balance but the four trees indicate rubber plantings under American control each of which by* 1935 *will be producing* 100,000 *tons annually*

MAP IV. WORLD PLANNING CALLS FOR REGIONAL SPECIALIZATION

Every black bale stands for 500,000 *tons of cotton production; every white bale for* 500,000 *tons of cotton consumed. The bales in boats represent import or export trade in cotton*



and unused, could be extended without difficulty. Turning from land to labor, America has shown that with the technical advances of mass production, eighty thousand workmen can turn out as many shoes as two hundred thousand heretofore. Under a functional economic plan this would mean a longer week-end, opportunity for leisure and enhanced consumption; under ours, it means technological unemployment. When we thus speak of an excessive or disproportionate development of productive capacity, this is only in its relation to profits and not to human wants.

WE must also reckon with the productive capacity which is now lost through advertising, propaganda and the middlemen of commerce (these would be salvaged under a functioning economic plan), and through war. Under our present system, there is no guarantee that the standard of living would be improved by disarmament or that consumption would increase, mortality and morbidity diminish. Indeed a more acute crisis of mass unemployment might follow. Whatever their waste, armies reduce the numbers of the unemployed in the ordinary capitalistic state. Battles absorb and destroy man-power, but do not necessarily injure business. Profits are made during wars, bankruptcies diminish, the money-making machine thrives. The exports of the United States increased during the World War, and its standards of living improved, as was true of England in the Napoleonic epoch. War in general, if the destruction be not too excessive, stimulates capitalistic competence. The explanation is that war management is partly a functional economic plan. The whole strength of the country is organized and centrally controlled to produce—not life and health but death and destruction with maximum efficiency. It is easy enough to prove that there is little under-utilization of resources in war, unless we regard war itself as under-utilization on a gigantic scale.

But the point that concerns us here is that in wartime important reaches of productive capacity, hitherto usually concealed, become apparent. There is a rapid speeding up on munitions, equipment and provisions. In the United States, the reduced working forces at home carried and supplied the two million workers sluiced off into the army. With the coming of peace, national and international functional economic arrangements disintegrated. Only in the Soviet Union was war management converted into the so-called war communism. Yet the hidden productive capacity elicited during the war held on and helped in the reconstruction throughout Europe. We see this same release of reserve capacity making quick recovery possible after any great catastrophe. The reconstruction in Japan following the earthquake required three years, and stimulated business. But must wealth be violently destroyed in order that reserve capacity may be utilized to the fullest degree?

A rough survey shows that in "normal" times 10 and more per cent of "effective productive capacity" often remains unused and that in a financial crisis it is not at all unusual for only 50 per cent to be used. Even then we are comparing, for example, the number of producing blast furnaces and their output with the number of available blast furnaces and their possible output. But in doing so we have by no means determined how many more blast furnaces might be readily erected and operated if production and consumption were systematically organized. To state our problem and our possibilities schemata must be drawn up to show us how and what productive powers are not fully utilized (inasmuch as from the beginning, fewer factories have been built, and less agricultural land opened up than was possible); how much of our already harnessed means of production are employed; what is the spread between maximum use in times of prosperity and minimum in times of depression; what the spread between even this reduced minimum and what is fully consumed.

It would not be an extraordinarily difficult task to carry out such calculations in kind on a scale to embrace all humanity. Our quantitative expositions would bring us inevitably, as a second stage, to analysis of the organization by which we carry out these functions and of how we may hope better to synchronize them. Such analyses would show how our present economic mechanism functions with its gold supply, its profits, its wages and purchasing power. And then schemes of other types could be studied and compared to discover whether with or without change in our social order it is possible to eliminate the discrepancy between productive capacity and actual service to mankind.

As things stand today, after an industrial organizer has established the efficiency of a plant to the second decimal point, after he has effected improvements which have made possible an increase in technical efficiency through small changes, he is horrified to discover that all his efforts may be nullified by gross waste in the outer economic world. And if this organizer considers how national economics may be reorganized he will find that national economics is dependent on world economics, and that a single nation, even though self-sufficient, must employ more labor and consume more raw material than would be necessary if certain products were imported from more favorable regions. He would find that maximum efficiency is possible only through world economic organization. We still produce thousands of goods in totally unsuitable regions instead of suiting production to the region. A world-embracing plan of economics would reveal how many human beings can live on the globe as a whole, given the technical aids of today; the manner in which production might be allocated to different centers; and the magnitude that consumption might attain if utopian hypotheses are avoided and known production data weighed.

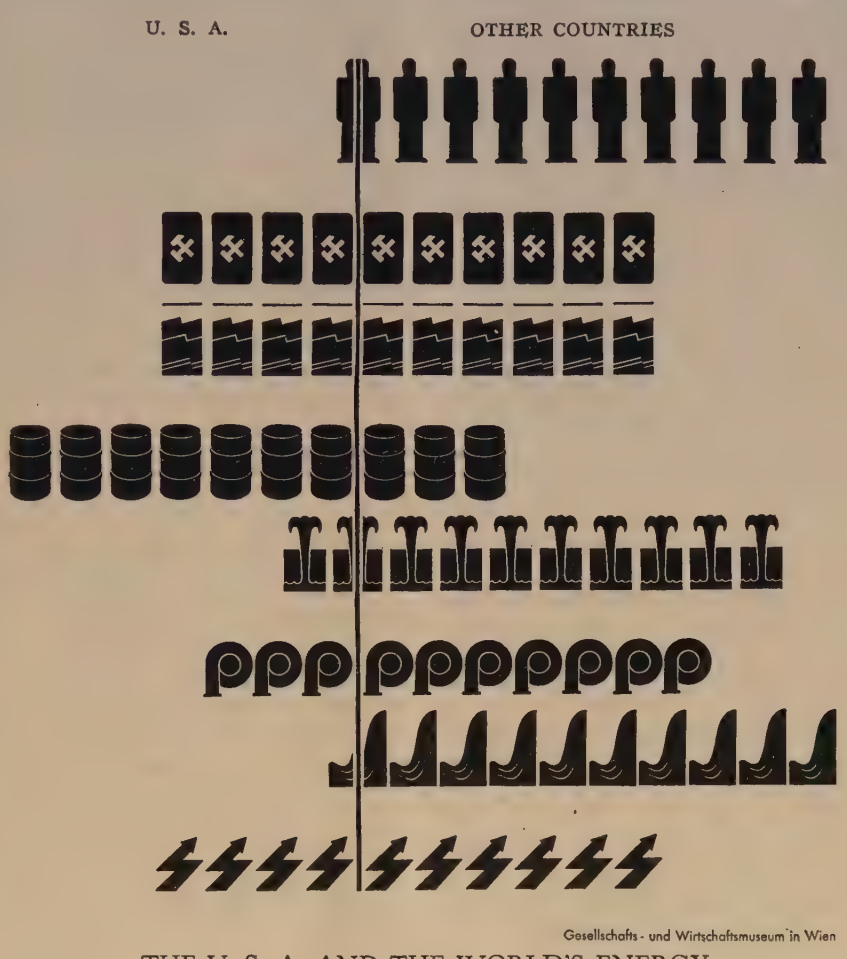
CONSIDER the earth as the habitation of man. If all technical resources were fully exploited, three times as many people could live upon its surface and more comfortably than ever before. When uncontrolled economic forces no longer determine the fate of mankind, no needed possibilities of production will be neglected or relinquished.

We may divide the earth into six great areas: Anglo-America—primarily industrial with surpluses of wheat and cotton and an abundance of raw materials; Latin-America—primarily agrarian, but in process of industrialization, and large exporters; Europe—highly industrialized like Anglo-America, but less rich in raw materials; the Colonial East, including primarily Africa and South Asia; the Soviet Union —which is involved in rapid industrialization; and finally the region of East Asia.

The studies of Alois Fischer prove that even if the best methods are followed it is impossible to grow more agricultural produce in Europe and China than is required for the sustenance of the people of those continents. There is opportunity for enormous human expansion in Latin America and above all in the colonial Orient (Africa, southern Asia

and Australia, primarily European colonial territory). On the other hand the Soviet Union and the United States still have room for a considerable number of human beings, though nothing in comparison with the two regions mentioned.

Growth in productive capacity can only be successfully accomplished within the framework of a definite social schedule for the production of raw materials and of finished goods. Obviously the development of colonies has in a measure aided the international division of labor, but the modern tendency of colonies to emancipate themselves leads to a growing self-sufficiency. Agrarian areas do not go over to industrial production because the world's necessities of life could not be secured through existing productive equipment. Rather the agricultural and plantation state is always dependent on the industrial state in our present economic order, and can never, by increasing its crops, acquire enough to buy the growing production of industry. By means of fertilizers, tractors and threshing machines, the world agrarian crisis, which it was hoped to avert through mechanization, has become more acute. The agricultural regions are impelled therefore to found industrial enterprises of their own to add to their income from the soil, and this results in turn in a further accentuation of the general industrial crisis. What must we think if India establishes a textile industry while in England the textile industry languishes? We see the Soviet Union, making tremendous sacrifices to erect new productive apparatus, urged on by the fear of a crisis and of war, whereas elsewhere on the earth production is being curtailed and some of the means of production are being destroyed.



THE U. S. A. AND THE WORLD'S ENERGY

Each figure represents 10 per cent of the world's total of (top to bottom) population, coal production, coal resources, oil production, oil resources, developed water power, undeveloped water power, electric power

The Malay Archipelago and the neighboring regions are now delivering the world's supply of rubber. While production is being curtailed in the interest of price and profits, the United States is planting more rubber trees in Central Africa and in Latin America in order to be financially independent of competition and possibly to make sure of a supply of rubber in case of war. It is readily conceivable that all the rubber needed by the world might be produced in the eastern portion of the colonial Orient and that the automobile industry could be concentrated largely in the United States. Cotton presents a different picture. British efforts to raise cotton in Africa have not been very successful, and even if the Russians are now growing acceptable cotton it is clear that if production were properly organized and if the old reasons for economic independence were no longer valid the world's cotton production could be concentrated in India and the southern United States. India can supply jute; Middle-Africa, cocoa; South America, coffee. The same considerations hold good for other raw materials, for sugar and tea and grain. Geological conditions control the mining industry. A few granaries would be able to supply the whole world with breadstuffs. Similarly it could rely on the equivalent of a few gigantic hog pens. One might well be located in the United States where one third of all the pigs are now raised. Today, a third of the world's output of butter comes from Denmark, to which Siberia is becoming a close second; one third of the cheese output comes from Canada, a quarter from the Netherlands.

In my references to the part that the United States might play in such a scheme of world economics, it is to be borne in mind that it is naturally very questionable whether it would be feasible in such a system to adapt economic jurisdictions to traditional frontiers. If we accept the practice and still retain our attitude we have this picture: The United States has enormous raw material and production resources within its own borders. As in Europe industrial products have been piling up without relation to population. Consumption of energy is more highly concentrated in Europe and America than anywhere else. Here, on these two continents, coal is consumed (and even exported by Europe) and here, above all, petroleum is consumed, much of it coming from the United States. The United States and Europe could supply much of the world with raw materials and finished products. They could remain purveyors of staples to the world if a functional system of economics were to operate so as not to disadvantage the other regions of the earth.

In a functional economic order the allocation of produc-

tion would be of small consequence to the inhabitants of the different regions affected inasmuch as the production of the world would be distributed regardless of its origin. Thus the standard of life of an agrarian worker in Argentina for example might be as high as that of an industrial mechanic in England. A functional system of world economics would be a system in which machines would be used, but this by no means implies general industrialization. Inhabitants of an agrarian region could share in the same technical advances as the inhabitants of other areas. Mobility is lacking in our present profit-economy, and it comes about that the worker who eats two pieces of meat is handicapped and injured by the one who needs only one measure of rice; in a functional economy, the rice eaters would actually be a relief for the beefsteak eaters because they would take away less meat from the world's output. The trade unions of the profit-economy are keen to eliminate every worker who is content with little. The trade unions of a functional economy would only welcome moderation in the demands of separate groups, but in a functional society the demand itself would quickly increase without disturbance. Increased productive capacity would provoke it.

What of transportation to serve this world wide interplay of goods? Here the problems to be solved are relatively simple. During the World War the United States increased the number of its shipyards more than tenfold. The sinking of merchant vessels was offset as early as 1919 by building new hulls, so that the world's commercial tonnage soon after the War was greater than before. For lack of commodities to transport or consumers to buy them about twenty-five per cent of world tonnage today lies idle. By its means every family of five in the colonial Orient could be supplied annually with three hundred kilograms of manufactured goods, in other words with enough to equal the similar possessions of western civilization.

To serve such a functionalized commerce a fivefold increase of manufacturing by the industrial nations of the world within fifteen years is undoubtedly technically possible. Automobile production has been increased fifteen times in twelve years; electricity eight times. Immense areas of power production could be developed and utilized at need with a minimum of waste. While today every war district wants to have its own "sea of electricity." One can pile example upon example showing how the wish for profit in all regions of the earth, together with military armaments and defective economic organization as a whole, increase the gap between the international capacity for social production and the standards of living—a discrepancy to which the count of the unemployed gives clear expression.

WE come now to the question whether there is likelihood of change. On the one hand we meet the assumption that our present system is fixed; one the other, that a new order can only be brought about by those classes who suffer most from the discrepancy between our ability to produce and theirs to enjoy. There are those who believe in a slow evolution and draw examples from previous "pilgrimages of man," and there are those who point out that great disturbances, wars and revolutions have introduced new systems even though such a change could have been predicted through rational reflection. They point out that psychology has shown us how strongly man is influenced by circumstances to which he gives no thought.

Thus far only the Soviet Union has made a beginning in enforcing a system of functional economics, with the simultaneous creation of a socialistic economic order, and this by abolishing private property in the means of production. Some there are who believe that a functional system, which would eventually be free from crises and worklessness and which would operate with maximum efficiency, could be evolved elsewhere and throughout the world. They hold that humanity, through constantly increasing insight into the interrelations between productive capacity and real consumption, may free itself from conditions of want in the midst of surplus. Others there are who assert that as soon as the power of the old forces in our economic life is seriously threatened with curtailment the most intensive resistance must be reckoned with. Hence only after an unprecedented collapse of the traditional system and after a frightful struggle between the working class and the ruling powers would it be possible to create a new order. They maintain that the carrying out of a world economic plan without stripping banks, trusts, cartels, and governmental economic bodies of their old authority and without setting up a central economic office clothed with plenary powers is like trying to eat an egg without breaking the shell.

WHEN we look at the past this is clear: Within the prevailing order crises cannot be avoided if we merely drift. If, after unutterable suffering, bankruptcies, the destruction of goods and factories the present crisis passes, the next will descend upon us with even more frightful force. Those who believed that the capitalistic monopolies of our time would at least alleviate if not obviate depressions were all wrong. On the contrary partial interference, hardly to be avoided in order to let in local relief, sharpens the crisis as a whole and thus results in governmental attempts to support collapsing banks, to lower the value of money as a means of stimulating production, and the like. These deliberately planned measures result in limiting production, and in the destruction of commodities. And so long as men and nations harass one another in the race for profits by paying low wages and selling at high prices, impelled by the desire to rise at the expense of others, they injure not only their competitors but themselves. Americans have come to see that a ruined Germany is a poor customer for the United States. Our capitalistic order so unites all things that no one can achieve isolated success or suffer failure without sympathetically influencing others.

When we look at the future, our survey shows the enormous growth in productivity and human welfare which opens out through functional planning. Whether it will be achieved through agony or through ordered understanding comes under the head of empirical sociology. But however individuals may diverge in their prognoses it is possible for analysis of productive capacity and its relationship to the standard of living to be accepted as a common platform for scientific research.

As the first step in elucidating the world in which we find ourselves we need an international scientific institute that would devote itself to such research. Its results should be disseminated by word and by pictures. Just as the great sculptors developed in epochs and cities which had love for the beautiful, just as technical proficiency thrives where everything is busy, so the great engineers of the future will emerge in a society where everyone has an understanding from childhood up of our natural resources and the social techniques on which hangs our new mastery of them.

Curtain

By BEULAH AMIDON

STEPHEN GREEN did not go west in a covered wagon. He and Emma, his wife, and young Stephen went "on the cars" in the decade that saw the end of the "hard times" of the Seventies, the beginning of Big Business in this country. Four families from the same Pennsylvania community made the trip together. The journey from the elm-shaded village along the Delaware to the Minnesota settlement where the westward-flung railroad then stopped, meant ten slow days of dust and discomfort. At the end of it came a thirty-mile ride across the prairies, each family and its possessions in a springless "grain-tank" lumbering over rutted dirt roads. The four new homes, "run up" by the land agent, were twelve-by-sixteen shacks, a mile or more apart. The Green farm had a "double shanty," one room dirt-floored, the other with splintery boards laid unevenly on the frozen ground of a late spring. A wind-whipped little scrub oak was the only tree on the 320-acre farm. Eighty acres had been broken the fall before. The rest was "virgin soil," prairie grass which had never known scythe or plow standing stiff and brown on the level acres.

A half-dozen other families, "old settlers" of one or two or even five years, lived near enough to be called neighbors in pioneer parlance. All had left behind them pleasant security in Eastern towns and villages. Their meager capital from the sale of what they had owned "back East" had gone into land and farming implements, livestock and moving.

It was a life of hard work. The men broke the prairie sod with gang plows, struggled with weeds and pests; helped one another with harvest and threshing, ditching and well digging. The Greens did not succeed in "striking water" for more than three years. Meantime, during the summer, it had to be carried in a tank from the muddy little river, two miles away, and in winter chunks of ice were dragged across the snow on sledges and melted for the family and the livestock. One summer the grasshoppers came; another year the settlers saw lush green crops, almost ready to ripen, beaten into muddy pulp under a hail storm. Twice in five years all the horses in the township died of glanders. Cholera left them without hams and bacon and sausage and salt pork one hungry winter, and red rust took the wheat crops of several years.

In time of sickness or death neighbors drove cross-country to ask or to give help. The few books in the community were shared for winter evenings. So were papers and letters from "back East." Choice seed grain was "divided up." The blackberry switches Andy Stewart's wife "carried from York State," the young "crab tree" the Wilsons "took up and brought along" spread to a dozen dooryards. Small cottonwoods and boxelders were transplanted from the "river woods" to make windbreaks around the houses.

Toil and hope and heartbreak and faith and courage and strength and defeat and poverty and achievement—I suppose it is only such words that can summarize the story of those years. Stubborn sod gave way to heavy stands of grain. Claim shanties, dug-outs, straw barns were replaced by farm buildings. Wells and windmills supplied good water "right to the kitchen sink." The flat prairie trails, drifted three and four feet deep in winter, impassable bogs in spring and fall, were replaced by graded highways, dividing the countryside into mile squares along the section lines. Beside the highways marched poles carrying telephone lines, and in front of the houses stood mailboxes for rural delivery.

"They worked turrible hard, but seem's like Mother and Pop were always happy," Young Stephen, old now himself, says wistfully. Young Stephen stayed on the farm for several years after his parent's death. He improved the buildings, added electric light and power and "city plumbing," and bought an automobile that shortened the miles between farm and town.

But, "My wife got restless," "The boy didn't seem to take to farming," "Help isn't what it used to be," "I'm glad now we sold out when we did."

A land company bought the farm. Bad tenants, the 1921 "deflation," the current "agricultural crisis" have wrought havoc with the buildings and with the once weed-clean, well farmed fields.

THE third Steve graduated from highschool and went to work in a drugstore. He "meant to study pharmacy," but somehow he never did. It was so much pleasanter to jerk soda, sell candy and writing paper and lipstick, until the present "hard times" came and Steve was out of a job. For more than a year he has loafed around at home, "waiting for something to turn up."

Stephen and Emma and Young Stephen and Steve are not only real people, but symbols of American realities. Emma and Stephen belonged to a time that has gone for good—to wide horizons, unmeasured resources, new rivers and mountains, new roads to the sea. Young Stephen had his part in the pioneer adventure and came to the end of it. He clings to a great tradition and gropes for some expression of it in the world today.

But Steve has cut loose from tradition and found no adventure. He was under-age in 1917 and "missed the war." He knows little and cares less about politics and government. "What does it matter to me which of the grafters gets in?"

He has scarcely "cracked a book" since he left school, and reads nothing in the papers except the sport pages and the "funnies." Steve has no hopes and no values authentically his own.

Here, humanly speaking, along with our undeveloped consumer market, our half-used productive capacity, is another great national resource going to waste. The experts who talk about economic planning have scarcely had time to include it in their scheme of things. But is it not worth while to consider whether economic planning for this country can go forward unless it is impelled by popular enthusiasm and belief?

Under the dictatorship of an individual or a group backed by force enough to say (and mean it) "If you don't work with me [us] you can't eat," an economic plan can be imposed on an unwilling or an apathetic people. But a national economic plan under democracy seems possible only through the quickening force of general acceptance and participation. Dictatorship is a method that has been employed again and again in history and long before written history begins. Democracy has not been fully realized as a political method nor really tried as a solvent for our modern industrialism. Perhaps we as individuals have never squarely faced its implications. Certainly we cannot rest content with stereotyped education and a literate generation which uses its literacy only to read "tabs" and comic strips, sport news and stock-market reports. What have we offered Steve, leaning against a lamp post on Main Street, aimless and hungry for adventure?

SUPPOSE the notion of pushing the frontier westward, of opening up new lands, exploring half-guessed resources, harvesting new crops, building new cities, had remained the dream of a few idealists on college campuses, an expert or two studying population trends and new markets in the Library of Congress—who then would have followed the Boone Trace, loaded the covered wagons, homesteaded the prairies?

If those who urge an American experiment with national economic planning are honest in their insistence on a "plan fitted to our traditions and institutions," then they must help shape the scheme to accord with the American trend. The whole idea of a national plan presupposes detailed pictures—movies, not stills—of the shifting economic scene. Given a conscious effort to coordinate the development of raw materials, the fabrication of goods, the distribution of products, we should have, as we have never had before, exact information about the sources and the sums of our national wealth and the uses to which it is put. But this new knowledge will be no more effective than the reports of recent research bodies, gathering dust on library shelves, unless it gets out among us, in forms that relate it to our common problems and experiences—to taxes, rents, food prices, wage levels, school playgrounds, hours of work, free libraries and so on almost without end; unless we all feel the pull to join and push ahead.

There is, alas, no magic abracadabra by which common purpose may be accepted, common effort launched. Violence and revolution are swift and dramatic. But democracy depends on longer, slower forces. National planning within a democracy calls for statistics, industrial coordination, an orderly scheme of production and distribution. But it also demands a deliberate and untiring effort to enlist the cooperation of all of us: Steve, if you like, and bankers and industrialists and ward bosses and case workers and artists and grocers and Members of Congress—

The settlers moved westward, sixty years ago, not because they had "orders from above," but as participants in a new and stirring enterprise which promised not merely "something different," but a broader and freer life. All along the Atlantic seaboard, in village squares and city alleys, in theater lobbies between acts, on college campuses and New England farms, people thought and talked and dreamed about "the West." Books and papers were read, maps studied, returned travelers eagerly questioned.

A national planning agency would, of course, face a vast undertaking in collecting and distributing statistics, reports on business and financial trends, organizing planning conferences of industries and groups of related industries, devising and keeping in motion the belts and cogs of an effective, adaptable economic plan. But in addition to this technical job, it must, I submit, take on a very human job of "public relations"—no ballyhoo, no cut-and-dried and slightly stale reports, fluttering about in fine type on flimsy paper, but the real, imaginative task of kindling and keeping alive the general interest and vital cooperation on which the whole usefulness of the planning agency itself seems to many of us to depend.

It is easier today than it was in "the early days" to pass on the news. Endless vivid means are available for telling people what is being attempted, how it is being done, in what direction it has been found necessary to correct or modify some part of a large and complex undertaking. Think of the well printed and illustrated books and pamphlets that could be made cheaply and easily available, telling in text, pictures, maps, charts, the purpose and progress of the plan in general, and of the plan for particular economic groups—textiles, or coal or light and power, for example. There could even be a First Book of Democracy, a crisp, clear, amusing, stirring handbook, setting forth the hopes, the responsibilities, the effort that must be consciously shared by us all, if our great experiment in popular government is to work through to final success in terms of opportunity and satisfaction for us and for our children. There are also available for this side of planning the enormous possibilities of the newspapers, the radio and movies. Automobiles and good highways and amplifiers make it possible for many of us at once to see special projects or take part in special events, as tens of thousands joined in the Yorktown celebration last summer.

Nothing very sudden or dramatic would happen if there were such books in our midst and it were cheap and easy and popular to read and talk about them; if a Planning Hour were part of the daily radio program; if, along with the races at Auteuil and Mickey Mouse, we saw news-reels and animated cartoons picturing the hows and whys of a more ordered economic life. Nothing would be suddenly different if a plan-economy were to start from where we are today and move forward as best it could, even if we were wise enough and clever enough to educate ourselves as we went along in how to plan and put it through together. But the whole tempo and color of our national life would change if the genius of American organization should focus on the American dream of opportunity for all in ways that would get the average man, kindling in him the hope that lies in conscious shaping of our national life toward a goal that seems to us worth while.

I LIKE to think of Stephen as last I saw him—an old man of eighty-four, sitting on his porch late one June afternoon, looking out over his smooth lawn and flowerbeds and green fields to the smudge of the city on the horizon. Effort and failure and achievement had marked his strong face, and so had patience and self-reliance and "being a good neighbor." I remember he said, in his slow way,

"I wonder sometimes what my boy and his boy will find that's as much fun as I've had, breaking this land and getting in my harvest. . . ."

TOWARDS THE NEW FRONTIER

Where American standards of living will be secure

By Wilfred Jones

Letters & Life

In which books, plays, and people are discussed

Edited by LEON WHIPPLE

The Theater Brings Gifts

1931—A Play by Claire and Paul Sifton. Farrar & Rinehart. 172 pp. Price $2 postpaid of Survey Graphic.
LOST BOY, by T. C. Upham. Mansfield Theater, New York.

THE white spotlight of the theater has fallen on three American tragedies. In 1931—through fourteen etched flashes of Adam, twenty, worker, broken in body and spirit along the *via dolorosa* of unemployment, we have an indictment of the economic system. In Lost Boy, Francis Demarco, rebel against misunderstanding and harsh discipline, shoots his way to freedom—and death, an indictment of our juvenile care system. Never No More, the picture of a Southern lynching, is an indictment of our caste system. These plays offer no "pleasant evening in the theater" for they are bitter, angry, heart-racking assaults on our ignorance and complacency, propaganda plays. The social worker feels at home in this new theater, too much at home, indeed, as the stage unfolds these tragic old tales on which, by day, he spends himself in sympathy and service. He is in truth the best critic of such drama.

What criticism shall he offer? First, he knows much that happens in 1931— is true. Strong youth does fling away a job in anger at spiteful foremen, and often sinks step by step to degradation because the system offers no work. He knows in more terrible detail than the Siftons the agony of job-hunting, the employment-exchange racket, eviction, panhandling, sickness without enough care in hospitals, the temptation to steal, the futility of soup-kitchens, the suffering of the snow-shoveler. He knows about lost morale and the disease Adam's girl gets when she goes on the street. You see the marriage did not happen (economic status forbade!) but the baby did. Those we call domestic relations. Eleanor Wembridge tells you about them. This play is not news to social work. We even know that desperate men rush to violence as does this Adam. But we deny that the rattle of machine-guns that ends this play is an answer to anything, whether the guns are in the hands of policeman or revolutionary.

We also understand the challenge of certain New York drama critics. Burns Mantle of The New York Daily News declares and rightly that 1931— gives no evidence that any relief work is being done for folks like Adam and The Girl. If this is a true picture, he says, then "the commissions, organized charities, high-sounding philanthropies and religions have failed to meet this most simple human problem." If the need is being met then the play is false and dangerous. The play certainly does not show in due proportion what *is* being done for salvage; it does not recognize that in this crisis society has shown a keener social conscience and taken wiser measures than ever before. But Paul Sifton points out, in a letter to Mr. Mantle, that most relief is for families, not for single men or women, and he adds:

> We believe an investigation would show both charity and relief to be impotent and useless. . . . We mean that private solution of such a widespread, deep and long continued public calamity is humiliating, inefficient and impossible. . . . The play's target is not Charity or any of its agencies of relief, but the anarchic "social system" which is now in one of its periodic breakdowns.

We believe that the play is in large measure true for the total of relief funds is a drop in the bucket, absolutely inadequate to stop-gap the break in our economic system. The social agencies (and their workers) are themselves near the breaking-point under this load they should never carry, but do undertake. Their character-building forces designed to *prevent* the tragedy of Adam and his Girl are threatened by the use of available money for relief. We know how pitiful are the resources, even in "peace times," with which to build barricades against the disintegration of lives. And we offer this Graphic, and our pages for twenty years, as proof that social workers are not content with charity and salvage, but seek with vision and hard thought to find a plan of life that will stop forever this American tragedy.

WE *know* how hard it is to cherish human lives and help the weak and sick and young. T. C. Upham knows, too, for he is the son of a truant officer in a small Massachusetts city, and so Lost Boy reveals with pity and insight not only the tragedy of Francis Demarco, the boy who did not fit, but the tragedy of the social worker. Wisdom and knowledge and pity make Lost Boy the best drama on a social theme we have seen. The boy (and the psychiatrist) were up against the same things: the rigid school that demanded reading and writing and discipline of a lad, none too bright, who loved tools and making things; the gang that set up a standard of bravado as proof of manliness; the mother, Irish, who, unhappy in marriage to a dreamy Italian, spoils her son; the dumb cops who nab the wrong boy; the dumber judge who wants no fol-de-rols of psychiatry and sends Francis to the disciplinary school "to save him and protect society." It sounds like case work, and is, but drama, too. And each character is given justice, the fumbling good-intention of every one inset in the web of inertia, ignorance, politics, prejudice and emotion as they come in life . . . what every psychiatrist knows!

The boy's queer spirit hardens under discipline and he breaks out—to steal tools. The psychiatrist discovers him on bread-and-water in a closet, and in a moving scene superbly acted by Elisha Kane, as Francis, and Clyde Franklin as the doctor, unlocks the barred door of pride by sympathy and the delicate techniques of analysis. He goes away to arrange for a home for Francis, free from mother complexes, while the lad builds a toy plane. Enter Nemesis. The superintendent driven by some queer ideal of institutional morale, touched with sadism, starts to whip the boy and smashes the toy plane. Francis strikes out madly with the chisel and kills: then fights his way to his mother by "shooting cops." It is no good, blind instinct, and as the police enter, Francis closes accounts with society by suicide. This is, I suspect, a more modern tragedy than O'Neill's Mourning Becomes Electra, the tragedy of the doctor who almost wins.

Now the theater did its best for these plays: it provided a stage, good actors, intelligent direction. Lost Boy was real drama with as Arthur Ruhl said, "an adult and informed quality rare in our theater." The playwrights gave their heart's blood to state facts honestly, and with no hope of re-

vard. Most of the critics reported with serious and discriminating care the meaning of these plays, and often added a personal acknowledgement of how deeply they had been moved. But no audiences came. The plays were withdrawn so swiftly that I saw only Lost Boy. Fortunately 1931— has been printed The public that gives money for relief, pays taxes for reformatories that do not reform, and votes for the economic order that produces periodic depression prefers the movies—to escape suffering. The political and economic powers do not seek light from the stage or even lend the endorsement of their names. And certainly Adam and The Girl, Mother Demarco, the judge and the superintendent were not present to learn of themselves. The problem is: how can we get people into the theater for serious drama?

I wonder whether more people might not come if such plays had happy endings. I do not mean fairy-tale claptrap, but a presentation of the way out, if not today, then tomorrow. We have here plays rich in criticism, but with no vision. Yet is not the public mind eager for a vision, a hope? Suppose 1931— and Lost Boy had drawn their indictments in Act I and then shown the next step, however halting that step may have to be. The psychiatrist almost saved the boy from himself, the family, and the state. Would it not make great and popular drama to show how he can win? The instinct of the people for the happy ending has deep roots: they want not defeat, but victory. The lost children of 1931 may be waiting for a sign. LEON WHIPPLE

The Plan of H. G. Wells

THE WORK, WEALTH AND HAPPINESS OF MANKIND, *by H. G. Wells. Doubleday-Doran. 924 pp. Price $7.50 postpaid of Survey Graphic.*

WITH The Outline of History and The Science of Life, this study completes a trilogy designed to further "the open conspiracy for the abolition of human misery and degradation." This reviewer rejoiced in the History, yet he finished it with a vague feeling of dissatisfaction. The historic experience of man was vividly portrayed; the author's aspiration for the future was movingly expressed; but that the one could be based on the other was not at all clear. Flinders-Petrie or Spengler offered a more convincing historic analysis.

The present work is a marked advance both in fundamental ideas and practical suggestions. The author must feel proud of his achievement; his literary gifts still charm, and no single page is dull.

In volume one, nothing is more incisive and arresting than his demand for a revival, as a vital element of modern education, of the medieval distinction between Nominalist and Realist. Is the word the reality, or is it a merely useful symbol for an objective reality in the world of experience? A question of first importance. Our intellectual, even our spiritual advancement is blocked by the living energy that we have assigned to words which enables them to marshall loyalties, determine policies and direct history, all without requiring painful investigatory processes on our part. An adequate analysis of this ancient problem must be a part of every school curriculum if we are to think clearly and advance successfully.

Likewise, he pleads for the re-instatement of logic as a required study. Centuries ago logic was sharpened into a keen-edged intellectual tool, but scholars had no good material to use it on—their premises were faulty. Today, with innumerable important premises firmly based on inductive science, we find habitually faulty reasoning in the mouths and from the pens of political, social, and religious leaders . . . all too often we catch ourselves in the same delinquencies.

In the economic sections particularly the new Wells shows his new hold on facts and experience. From the long list of authorities with whom he consulted (Professor Henry Clay, Dr. Finer, J. Maynard Keynes, Thomas W. Lamont, Sir Josiah Stamp, Prof. T. E. Gregory *per exemplam*) and his own original thinking, Wells has come to solid personal conclusions. This passage (page 553) on disarmament illustrates the practicality of this inveterate idealist:

> And we have to remember that if there is anything whatever to be said in defense of armaments, it is that they distribute a very large amount of purchasing power to skilled workers and trained and fit men who might otherwise stand out of employment. A sudden world-wide disarmament, unless it was accompanied by colossal housing and transport schemes and the vigorous reequipment of civil life, might enormously increase the world's economic difficulties. The thought of this possibility is one of the obscurer obstacles in the way to the abolition of war. It is one of the many reasons why merely negative pacificism is futile. Men will not be able to give up war preparation *until there is something else to do in the place of it.*

If we are to criticise, we might call attention to his ineradicable bias toward international action as the *sine qua non* of effective economic and social control. This view is quite explicable in one who has experienced a life-time of English industrial history. It is not so obvious to us who have been nurtured in a nearly self-sufficient commonwealth, though it is with difficulty that we free ourselves from the tradition of the English economists of our early education.

When Wells says, on page 552, that "The British workers have a limit set to their progress by Indian, Egyptian and Chinese workers," he has, in vulgar American, "said a mouthful." If the future prosperity and happiness of English workmen depends on greatly improving social conditions in India, Egypt and China, then the English workman is done for. But need he be? It may be that the tough-minded unimaginative gentlemen who are trying to build an economic entity out of the elements of the British Empire (and *please* leave out India) are wiser in their day and generation than are the idealists.

For the path to worldwide social and economic control does not lie in an immediate attack on the world problem. Progress will be accomplished through the intermediate steps of separately organized economic empires, of which Great Britain and her associated commonwealths form one example, the Union of Soviet Republics another, and the United States with its dependencies a third. Western Europe, if it so wills, may become a fourth. The hope for the immediate generations lies in the organization of these groups as socially controlled, non-predatory, economic empires.

What are the prospects for progress toward the ends which Mr. Wells so invitingly describes? We have intellectual leadership aplenty. We cry aloud for executive and political leadership and find it not.

But perhaps we are making progress after all. Certainly the confused mass of liberal opinion is beginning to focus about two fundamental methods—the detailed control of details, and the general control of major social and economic factors. Apparently Mr. Wells is inclined toward the latter method.

Possibly by much writing, talking, conferring, thinking and orating this process of focusing can be accelerated. Possibly one of the two tendencies (I hope it will be the second!) will draw to itself more definite and effective support. Perhaps the ideas, objectives and methods thus developed will so permeate society that they will be adopted without conspicuous leadership. If such a consummation is possible, Mr. Wells' book must be counted as among the most helpful contributions to the project that have yet been made. RALPH E. FLANDERS
Springfield, Vt.

The Drama for Peace

THE INTERNATIONAL NOTE IN CONTEMPORARY DRAMA, *by Evelyn Newman. Kingsland Press, New York. 208 pp. Price $2 postpaid of Survey Graphic.*

"LITERATURE has broken with war, and war may be broken by literature." This is the challenging conclusion of Evelyn Newman's valuable study of the international

note in French, German, English, and American drama since the turn of the century when Romain Rolland wrote Le Temps Viendra against the chauvinistic patriotism of the Boer War. Before the World War, the few lone protestants (Rolland, Shaw, Hardy, Hauptman) were lost in a literary chorus singing praise of war's romance; but with the sharp cleavage of the war generation the chorus changed, and the best artists and thinkers of the stage turned to revolt against war, to exposure of its roots and costs, to better criticism of the social system that fostered war, and to impassioned pleas for international reconciliation. They declare war is alien in a cooperative world; it settles nothing but defeats victors as well as vanquished; it cannot be reconciled with religion; its mechanical horrors are unendurable by human flesh.

Miss Newman reveals this change by comment on seventy dramatists, with a list of 150 plays, grouped in chapters on the War, post-War, Historical, and American contributions. This list itself is great service to literary study and internationalism; it shows the scope of this movement and will introduce many of us to great plays, especially French and German ones, that we have not known. This groundwork will be enlarged and should include Aria da Capo by Vincent Millay, The World We Live In by the Capeks, and Susan Glaspell's study of the conscientious objector in university life.

This volume is not, the author declares, either literary criticism, or propaganda, but a search for objective evidence of the modern playwright's view of war and international relations. She has found this in the best men and the most artistic drama—in Shaw's, Heartbreak House and St. Joan, in Raynal's, Le Tombeau sous L'Arc de Triomphe and Lenormand's, Le Lâche, in Unruh's, Platz and Ernst Toller's, Die Wandlung. America's contribution is not comparable in quantity or quality for we did not suffer so much; but we have produced What Price Glory, Spread Eagle, and Channing Pollock's The Enemy. The last to me is the best though Miss Newman does not agree. It would be useful for Miss Newman to make a study of the patriotic plays and the motion-pictures born out of the War and their influence on the public mind. Finally, though it is ungracious to ask more from one who has given so much, we hope she will make an anthology of some of the plays themselves. The synopsis, however skilfully done, is not interesting or moving. And to combat war on the stage we must enlist both interest and emotions.

LEON WHIPPLE

The Bloodless Revolution

FEBRUARY 1917, *by Alexander Tarasov-Rodionov. Covici-Friede. 378 pp. Price $3.75 postpaid of Survey Graphic.*

THE revolution of March, 1917, seemed at first a mere change of the political façade. So it was greeted by all the classes of the Russian nation as well as by the Allied governments which expected that a healthier régime would help bring the War to a victorious conclusion. The Bolsheviks alone, numerically insignificant, refused the join the Hosannah chorus, and through their spokesman, Lenin, sounded a decided dissonance. For them the abdication of the Tsar was not a glorious finale in the century-long revolutionary movement, but the beginning of a revolution more social than political.

Tarasov-Rodionov was an army officer who took a lively part in the Petrograd events of March. His peculiar value lies in the keen appraisal of the situation by one who leaned toward Lenin even then, and could see through the sweetish mist of intoxicating verbiage. Tarasov-Rodionov (the translator, who apparently used the German version, insists on naming the author "Aleksei" instead of Alexander and is guilty of other inaccuracies and unwarranted abridgements) had good opportunities for observing the March leaders. No fiction could be more entertaining than the scenes in the Petrograd Soviet, in the Imperial Duma, on the streets, in the barracks. He is particularly apt as a portraitist. His Kerensky, his Rodzianko, his Chkheidze, his Lenin, Zinoviev, Stalin, his fellow-officers and privates are convexly vivid. He endows his sitters with unforgettable details, and lavishes caustic strokes on such of his pet aversions as Milyukov and Kerensky.

One who reads carefully, February, will better understand the nature, and inevitability, of November (October, O. S.). Tarasov-Rodionov graphically suggests the internal conflicts and contradictions of the early phase of the revolution. Above all he makes one realize the failure of the leaders to appreciate those whom they wished to lead. That the Rodziankos and Milyukovs regarded the outbreak as a Frankenstein, is easily understood. Less obvious is the blind doctrinairiness of the Martovs, Chkheidzes, Chernovs, and other Socialists who attempted to harness the raging elements of the awakened masses to the cart of historic precedents and economic theories. It was left for Lenin, the isolated "madman," to open their eyes to the true meaning of the Russian revolution. When he did so, and not too gently, in November, his myopic opponents only blinked, but persisted in their blindness.

ALEXANDER KAUN

Whither England?

ENGLAND'S CRISIS, *by Andre Siegfried. Translated by H. H. and D. Hemming. Harcourt, Brace. 317 pp. Price $3.00 postpaid of Survey Graphic.*

LIKE so many excellent French books this volume presents a lucid and interesting exposition of a thesis without overburdening detail or footnotes. The "crisis" is England's decline as economic center of the world. The causes are explained at length: the supersession of coal as the chief form of industrial power, the rise of new rivals during the war, the obsolete machinery and organization of industry, the high stabilization of the pound sterling. These factors are generally acknowledged as being dominant. M. Siegfried is on more controversial ground when he includes high wages and the "dole" as even more fundamental today. Rationalization, one remedy, is proceeding, though none too rapidly. Two other proposals the author makes are the reduction of wages and the exploitation of that part of the Empire which is not self-governing. Now here it seems to me that despite his amazing familiarity with English conditions, he has neglected an increasing body of public opinion, which is to this effect: high wages are not bad in themselves, but are good, if industry is efficient. The first thing then is to put the nation's industry on a sound technical basis. The "dole" is bad insofar as unproductive people are being maintained but is no worse than maintaining the unemployed rich. Increasing taxation is seeking to wipe out the latter and serious-minded people look to schemes for national employment for those on the "dole." The purpose is to make England into the best possible country under the circumstances. But in doing so they must not exploit the native peoples under their care in the Empire. The new policy—and this is true for all political parties—is to regard native interests as paramount in each colony.

M. Siegfried's accusation against England is that she is still in the nineteenth century industrially. Yet his own criticisms are those of the nineteenth century. He does not see that politically she is in the twentieth century and he has little regard for considerations of social welfare and international cooperation. One must admire the perspicacity of a foreigner who can get as close to a nation as he has to England. Indeed one cannot blame him for seeing drift instead of purpose in England's policy. Many Englishmen agree with him.

H. McD. CLOKIE
Rutgers University

These Traveling Britons

THEY WERE STILL DANCING, *by Evelyn Waugh. Cape and Smith. 317 pp. Price $2.50 postpaid of Survey Graphic.*

MR. WAUGH'S undeniably entertaining travel book is an unwitting sidelight on what has helped to preserve the myth of Anglo-Saxon supremacy with its implications of the White Man's burden. The Englishman in foreign places seems to be comfortable only when in contact with things approximately British. The accustomed soothes him. The unaccustomed drives him into a frenzy of superiority. "These things are done better at home" vibrates from every nerve. By the time he has completed his round, his conviction of the inefficiency and essential wrongness of everything not British in origin is firmly entrenched. In unadaptibility lies the strength of the English. They colonize so that they may be comfortable while traveling.

Mr. Waugh presents an almost too perfect proof of this

theory. He attends the coronation of the emperor of Abyssinia; goes on to Zanzibar; visits Kenya, the colony of English country gentlemen who have transplanted the life of the English country-side to Africa; turns inland with the mistaken idea of crossing the Congo and so returning to England by the West Coast; and eventually reaches Cape Town. At cocktail parties, gatherings at the local clubs, shooting trips and formal dinners with his local compatriots, Mr. Waugh has a jolly time. Once off the beaten track, staying in native hotels, taking his chance on a lazy interior river steamboat he is beset by boredom so terrific that he fought it "by the desperate expedient of writing."

But the reader has no right to complain. He has a much better time than did Mr. Waugh. HELEN MEARS

A Crooked Mile

OLD BOWERY DAYS, *by Alvin F. Harlow. Appleton. 565 pp. Price $5.00 postpaid of Survey Graphic.*

IN all America there is no street with such a pull on the imagination as the Bowery The author of this volume reminds us that New York is known internationally by four of its thoroughfares: Broadway, Wall Street, Fifth Avenue and the Bowery. However, the international reputation of the Bowery is chiefly limited to the plebian half of civilized man. In the history of New York this grimy way, no more than a crooked mile long, has survived many shifting scenes incidental to the growth of a great city. Now, the Bowery is an old man. The brilliance of its youth has gone to Broadway; the bargain market of its prime has gone to 14 Street; and the traffics of its underworld heyday have scattered throughout the city, or vanished. For a century it was the only entrance to New York, the Gotham end of the Boston Post Road over which Washington made his triumphal entrance after the city had been held for eight years by the British. Later it was the right of way for the first horse car line, and later of the first wood-burning locomotive. Now the Bowery is low indeed, but not without a future.

The present reviewer is rather sentimental about the Bowery and he has been for some time. Perhaps he is a little jealous because he has been ably scooped. For two years he has been gathering material for a history of the Bowery. Now Harlow has included in his book most of that material and much more. He has combed all the sources and put the findings together in a good journalistic style. He has failed in one particular. He does not trace the evolution of the street with the life surrounding it. Hence, there is room in a few years for another book on the Bowery. NELS ANDERSON
Seth Low Junior College

Dogma and Faith

WHAT LIFE SHOULD MEAN TO *YOU, by Alfred Adler. Little, Brown and Company. 286 pp. Price $3.00 postpaid of Survey Graphic.*

THIS is a clear and simple presentation of the social doctrines of individual psychology as presented by Alfred Adler. The viewpoint is optimistic; we are masters of our own actions and cooperation should be our goal. There is the customary statement that all life's problems are occupational, social and sexual. The emphasis is placed upon a style of life that is unified and crystallized during the first five years of life. Personal salvation develops from self-determination; and characteristic behavior results from the effort to compensate for organic inferiority, pampering, neglect, or being a hated or unwanted child. The statement of power and security, to maximate the ego, is the goal of life and its values are fictitious when not directed along cooperative channels. Inferiority feelings are the cause of all improvement in the position of mankind.

And thus continue the old familiar allegations regarding human behavior—all based upon formulated dogmas—the inferiority complex, a strife for power, a style of life, and so on. And these are repeated in wearisome variety of expression but without convincing proof. Statistical statements are notably absent. Acceptance is on faith.

The doctrines of individual psychology have been overpresented. Perhaps those unfamiliar with them may find a value in this volume; for those familiar with the Adlerian doctrine it adds neither knowledge nor stimulus.

The editorial pencil lacked vigor and hence the presentation is verbose and repetitious. One is impressed again with the fact that Adler's students are prolific in trading upon his name.
New York City IRA S. WILE, M.D.

Religion and the Church

WORLD REVOLUTION AND RELIGION, *by Paul Hutchinson. Abingdon Press. 201 pp. Price $2.00 postpaid of Survey Graphic.*
WHICH WAY RELIGION? *by Harry F. Ward. Macmillan. 221 pp. Price $2.00 postpaid of Survey Graphic.*

HERE is a pair of books that mighty few people will "enjoy." It is utterly out of place to use such a mild word in connection with books of this type and caliber. People will have all sorts of reactions from violent disagreement to equally violent agreement but their feelings will be too pronounced for mere enjoyment. For both Professor Ward and Dr. Huntchinson see a cataclysm approaching and both of them offer ample evidence to the effect that organized religion will probably not be able to weather the storm in any of its present forms. Methodist, Baptist, Presbyterian, Catholic churches will simply cease to be; but religion will endure and it will reorganize, perhaps about such groups as the Fellowship of Reconciliation or the League for Industrial Democracy. The two books agree on all points of importance. Perhaps Hutchinson's book offers a more appealing presentation and a more succinct outline. He analyzes the present and future crisis about four revolutions—political, social, racial and religious—all of which are now obvious to the naked eye. But both men have all the pessimism of doctors diagnosing a severe case of tuberculosis, and all the optimism of those same doctors for a possible cure. CHARLES STAFFORD BROWN
Colorado Springs

LIGHT AND POWER

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the railroads, and otherwise regulate interstate trade in holding company securities and management organizations operating beyond the borders of any one state.

Second—A federal electrical planning board—a Giant Power Board for the nation—with administrative authority to study the electrical needs of the country as a whole as they are today and as they will be a generation from now; to establish a nation-wide comprehensive plan for affording the cheapest and most abundant power for the farm, the home and the factory; to conserve our national power resources in coal mines, oil wells and falling waters; to prevent unnecessary duplication and paralleling of interstate facilities; and to plan out a unified, coordinated and economical system of national electrification toward which both public and private enterprise can be directed.

Third—State commissions with administrative as contrasted with judicial powers emphasized, or if necessary augmented. Thus empowered such commissions should simplify and standardize rate schedules, institute revealing accounting and cost-finding procedures and revamp rates so that the several classes of service will be more nearly self-sustaining. All along the line social need should be the test of action. (Obviously this all must be done with full respect for the Constitutional protection of private property.)

Fourth—A Giant Power Board in every state to study out and safeguard its own electrical future, to cooperate with the equivalent federal authority, and to suggest from time to time requisite legislation.

To meet such a public program halfway the private industry must abandon the financial and speculative outlook which has so largely in the past been its urge to action and see its future in the efficient operation of vast properties with a nice regard for their public importance.

No one expects rates based wholly on cost. But it is in the social interest that rates to householders shall be fixed at levels which insure the maximum use. Electricity cannot be as free as air but it can be sold on the basis that water is sold where its use is hardly restricted because of the cost. Nothing short of this policy will in the long run be adequate if the stewardship of the private interests is to continue.

IV. Business Planning

THE fourth type of economic planning—the business type—dominates the current proposals of business men and of those closely allied with business in the United States. Its main features are the idea that planning should be practiced without disturbing too much the basis of present-day economic society and the insistence upon maintaining the economic leadership of the business group.

The exponents of this type of planning seem to agree on three points. First, that business men must evolve broader social incentives and objectives than the profit motive—such as security for the worker, larger purchasing power for the masses, and more leisure for the people to enjoy a higher standard of living.

Second, that some method must be evolved to prevent overproduction and unemployment. To make this possible in the United States, they would change the laws on trusts and combinations and would establish some scheme of industrial self-regulation through trade associations which has been characterized as syndicalistic capitalism.

Third, it is assumed that business leadership can evolve its own modes of control and can readjust to new needs much better than it could under pressure from without. The government is to remain subordinate to business in the main functions of guidance and leadership.

V. Social-Progressive Planning

THE fifth type of planning, which may be called the social-progressive type, is advocated in the United States by those who can accept neither the business nor the Soviet type of planning. Their objection to the latter is that it would necessitate revolutionary procedures too costly for the individual and for society. Their refusal to acquiesce in the business type of planning is that it is inadequate for the purpose for which it is proposed and that it carries the menace of accentuating the undemocratic control of industry by business.

The business community normally thinks in terms of effective demand and of prices which allow for maximum profits ove short periods of time. Whenever business men unite for economic purposes, the tendency is to restrict production to maintain profitable price levels. The efforts of institutes organized recently in the United States to deal with excess production in mining, textiles, oil and so on, confirm this statement. It is one of those paradoxes from which business as it is now conducted cannot escape. Driven from within by the desire to increase capacity and to use equipment at the maximum rate, it runs up against the limitations of effective demand due to its own wage and price policies.

Subservience to maximum short-run profits makes business unable to extend mass purchasing power to the degree necessary to solve its difficulties. Purchasing power can be increased through increasing wages and salaries or through lowering prices or by a combination of both methods. While improved techniques have been and are utilized to reduce prices the desire for increasing profits hampers this process by keeping prices at a level higher than is justified by the potential equation between the real needs of the people and possible minimum costs. American experience between 1922 and 1929 throws light on this point. In those years earnings and hence living standards were below what is generally assumed and certainly far below what was justified by the productive activity and the business earnings of our "unprecedented prosperity." Those years made it clear that the business type of planning cannot bridge the chasm between effective demand and real need and between excess capacity and maximum use of resources.

The insistence on voluntary business leadership is a further weakness. So long as each individual firm is its own master, the possibility of profit for itself, is bound to be a more powerful stimulus than an uncertain guarantee of steady profits on the basis of a voluntary agreement. Conflicts are also bound to arise between different industries for the consumer's choice, resulting in competitive efforts that disregard what happens to "the other fellow." And so long as the business community maintains a monopoly of economic guidance, there is no

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chance to tap the community for the impulses towards new social plans and objectives.

For these reasons those who advocate the social-progressive type of economic planning consider it necessary to go beyond the proposals of the business type. To achieve both security and a higher standard of living, this fifth type calls for some measure of redistributing income as a basis for increasing mass purchasing power. Without such a redistribution, it is impossible to overcome the disparity between effective demand and real need and between saving and spending which exists today.

In the United States, a redistribution of income might be achieved through an annual wage, a universal five-day week and six-hour day, and through social provisions for the utilization of leisure. Various forms of social insurance, especially health and unemployment insurance, could also be used to the same end.

The social-progressive type of planning would thus endeavor to extend the demand side of economic life. Taking as a basis the present habits of consumption and expert opinion as to what constitutes a tolerable subsistence level, it would use this as a minimum real demand for the satisfaction of which the productive resources of the country must be applied. Its next step would be to push the utilization of our capacity toward higher standards of living.

Without upsetting the entire scheme of private property, this concept calls for planning backed by authority to see that industrial leaderships follow the economic course which is most desirable from the national point of view. While it rejects dictatorial methods, it demands some central unifying agency which can apply governmental pressure if necessary and which can gradually widen the area covered by the economic plan.

So to balance production and distribution would also mean some modification of the price process. Without having recourse to price fixing, the planning agency could place before industry continuously the problem of meeting the real needs of the people and of utilizing full productive capacity to do so at minimum prices, allowing for a socially fair profit. Producers would be allowed to make their own prices subject to inquiry by the planning agency, and all business would have to reckon with the standard of a socially reasonable profit.

This scheme approximates the idea of varying the range of return in relation to social service. It would allow also for special rewards to employers, scientific managers, and workers above current rates, similar to present-day bonuses, for a continuous reduction in costs and prices.

Such social-progressive planning would involve methods for directing the flow of capital, through the right to approve or disapprove new capital issues and to supervise the methods of their financing.

AS to who shall make the plans and how they should be enforced, social-progressive planning proceeds from the conviction that economic leadership is not, and should not be, a monopoly of the business man. Our understanding and guidance of economic life will be more thorough-going if management, labor, technicians and scientist come together to supply both the planning and the administrative machinery for carrying out plans. In other words, planning must have a national character and a measure of governmental authority.

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Thus the factors which produced the movements for rationalization and stabilization, are likely to operate with greater force to stimulate interest in planning as the synthesis of all previous efforts towards a conscious shaping of economic life.

IN contrast to the opponents of planning, its revolutionary advocates are impatient with the idea that planning can be peaceful and gradual. They visualize only the more extreme types of plan economy such as the absolute socialist or Soviet type, and they claim that such planning can be established only through a revolution which would compel the beneficiaries of the present business system to submit to the change.

While there is an element of truth in this analysis it is, realistically considered, only another form of abstract faith in cataclysmic change as the only mode of social progress. It is a repetition of the old-time formula on the basis of which it was erstwhile argued that trade unions could not improve the conditions of the workers, that social legislation was impossible under "capitalism," and that no step forward could be made in the political and economic status of labor until the whole system was changed. This view is obviously entirely too simple.

It ignores the fact that many devices and institutions are evolved in advance of comprehensive social changes, and are promoted not through conflict but through the cooperative action of various economic groups on the basis of provisional compromises. I do not mean to repeat in new words the old theory of the "inevitability of gradualness." Breaks in social growth may be inevitable until we learn the art of making social revolutions peacefully. But I do wish to stress the point that the constructive elements of new social systems can be built in part before a sweeping transition from the old to the new is either possible or desirable. That is evidenced by the great changes in property relations, in standards of living and in social control which have been effected under "capitalism" in the last generation. That further changes in the same direction in the coming years are possible seems to me beyond doubt.

That this will involve the concentration and determined action of the forces of social progress is obvious. There can be no redistribution of income and economic welfare without a corresponding redistribution of social prestige and political influence. Both will require the building up on a new scientific basis of the collective institutions through which such redistribution can be effected. It is in this respect especially that social-progressive planning differs from all others —for it assumes that we can avoid both violence and dictatorship by promoting realistic thinking and by allowing group conflicts within regulated limits and in such rationalized forms as will serve to hammer out a large sense of collective solidarity on the basis of the immediately possible.

In other words, we must proceed not from an abstract contrast between revolution and reform, capitalism and socialism, but from a dynamic point of view which regards social developments in their moving and changing order. There is no fixed and uniform capitalism but a continuously changing industrial system hammered from without and transforming from within. There need be no sudden jump from laissez-faire to a planned economy with all the pain and destruction which that involves if we can bring to consciousness the elements of planning already evolved and their systematic coordination into a comprehensive principle of action.

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Similarly, without setting out to reorganize industry at once, economic planning could study the requirements for success in any field of production, could establish the minimum standards required of any plant for the right to exist, determine the possibilities of utilizing excess capacity, explore the wide gaps between market and real demand, and reduce costs which are the result of business mismanagement or financial manipulation.

Some difficulties, however, are more serious. Economic planning in most countries today would be hampered by the lack of necessary data and by lack of experience. None the less, there is already an existing basis to warrant the presumption that economic planning is a practicable method of economic guidance.

Without passing judgment on the performance of the Soviet Union and allowing for the conditions which simplify the Soviet problem, the operation of the Five-Year Plan has gone far enough to prove the feasibility of the method in its particular Soviet form. The basis for believing that it could work also in a social-progressive form lies in the growing technique of statistical determination of demand and resources, in the greater concentration of directive authority, in the effectiveness of methods for organizing public opinion, and in increasing insight into the nature and processes of machine economy which we are developing today.

IT seems thus more in accord with the facts to regard planning not as a passing fad, but as a principle which offers a new approach to our economic problems and which lends itself to gradual extension and elaboration both in thought and in practice. It is the new principle of the twentieth century which has gradually been evolving in antithesis to that of the nineteenth. The *laissez-faire* of the nineteenth century was based upon a metaphysics of the providential guidance of natural law. The *planning* of the twentieth century rests on a philosophical faith in the power of man to promote orderly economic and social change through scientific research and constructive imagination.

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(*Continued from page 571*)

IV. Business Planning

THE fourth type of economic planning—the business type—dominates the current proposals of business men and of those closely allied with business in the United States. Its main features are the idea that planning should be practiced without disturbing too much the basis of present-day economic society and the insistence upon maintaining the economic leadership of the business group.

The exponents of this type of planning seem to agree on three points. First, that business men must evolve broader social incentives and objectives than the profit motive—such as security for the worker, larger purchasing power for the masses, and more leisure for the people to enjoy a higher standard of living.

Second, that some method must be evolved to prevent overproduction and unemployment. To make this possible in the United States, they would change the laws on trusts and combinations and would establish some scheme of industrial self-regulation through trade associations which has been characterized as syndicalistic capitalism.

Third, it is assumed that business leadership can evolve its own modes of control and can readjust to new needs much better than it could under pressure from without. The government is to remain subordinate to business in the main functions of guidance and leadership.

V. Social-Progressive Planning

THE fifth type of planning, which may be called the social-progressive type, is advocated in the United States by those who can accept neither the business nor the Soviet type of planning. Their objection to the latter is that it would necessitate revolutionary procedures too costly for the individual and for society. Their refusal to acquiesce in the business type of planning is that it is inadequate for the purpose for which it is proposed and that it carries the menace of accentuating the undemocratic control of industry by business.

The business community normally thinks in terms of effective demand and of prices which allow for maximum profits over short periods of time. Whenever business men unite for economic purposes, the tendency is to restrict production to maintain profitable price levels. The efforts of institutes organized recently in the United States to deal with excess production in mining, textiles, oil and so on, confirm this statement. It is one of those paradoxes from which business as it is now conducted cannot escape. Driven from within by the desire to increase capacity and to use equipment at the maximum rate, it runs up against the limitations of effective demand due to its own wage and price policies.

Subservience to maximum short-run profits makes business unable to extend mass purchasing power to the degree necessary to solve its difficulties. Purchasing power can be increased through increasing wages and salaries or through lowering prices or by a combination of both methods. While improved techniques have been and are utilized to reduce prices the desire for increasing profits hampers this process by keeping prices at a level higher than is justified by the potential equation between the real needs of the people and possible minimum costs. American experience between 1922 and 1929 throws light on this point. In those years earnings and hence living standards were below what is generally assumed and certainly far below what was justified by the productive activity and the business earnings of our "unprecedented prosperity." Those years made it clear that the business type of planning cannot bridge the chasm between effective demand and real need and between excess capacity and maximum use of resources.

The insistence on voluntary business leadership is a further weakness. So long as each individual firm is its own master, the possibility of profit for itself, is bound to be a more powerful stimulus than an uncertain guarantee of steady profits on the basis of a voluntary agreement. Conflicts are also bound to arise between different industries for the consumer's choice, resulting in competitive efforts that disregard what happens to "the other fellow." And so long as the business community maintains a monopoly of economic guidance, there is no chance to tap the community for the impulses towards new social plans and objectives.

For these reasons those who advocate the social-progressive type of economic planning consider it necessary to go beyond the proposals of the business type. To achieve both security and a higher standard of living, this fifth type calls for some measure of redistributing income as a basis for increasing mass purchasing power. Without such a redistribution, it is impossible to overcome the disparity between effective demand and real need and between saving and spending which exists today.

In the United States, a redistribution of income might be achieved through an annual wage, a universal five-day week and six-hour day, and through social provisions for the utilization of leisure. Various forms of social insurance, especially health and unemployment insurance, could also be used to the same end.

The social-progressive type of planning would thus endeavor to extend the demand side of economic life. Taking as a basis the present habits of consumption and expert opinion as to what constitutes a tolerable subsistence level, it would use this as a minimum real demand for the satisfaction of which the productive resources of the country must be applied. Its next step would be to push the utilization of our capacity toward higher standards of living.

Without upsetting the entire scheme of private property, this concept calls for planning backed by authority to see that industrial leaderships follow the economic course which is most desirable from the national point of view. While it rejects dictatorial methods, it demands some central unifying agency which can apply governmental pressure if necessary and which can gradually widen the area covered by the economic plan.

So to balance production and distribution would also mean some modification of the price process. Without having recourse to price fixing, the planning agency could place before industry continuously the problem of meeting the real needs of the people and of utilizing full productive capacity to do so at minimum prices, allowing for a socially fair profit. Producers would be allowed to make their own prices subject to inquiry by the planning agency, and all business would have to reckon with the standard of a socially reasonable profit.

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COTTON TEXTILES

(*Continued from page* 594)

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THE BROOKINGS INSTITUTION—WASHINGTON

(*Continued from page* 637) dollar and becomes a sharper competitor than ever, because there is virtually no charge o capital investment. Attrition doesn't work, in textiles. Ma chinery, even when it is inefficiently maintained—by a "lick an a promise"—will continue to produce for years and years.

Indictment of the entire industry for what has happened, i unfair and unwarranted. Never has there been a more genera disposition in textiles to step into the light. But movemen toward saner practices has been blocked by a minority.

The situation does not involve any material danger to th public interest in the event that it should be corrected an prices become stabilized. There is a point to which prices fal where consumption is not increased and where loss spreads t all of those involved—the worker and the public as well as th stockholder and the management. In the textile industry th central problem is to bring prices to a level where mills can get a new dollar for an old one. In textiles, we have even seen the customer approach the mills and ask that output be curtailed in order that prices become stabilized.

The 55-50 plan, to which over four fifths of the industry's total productive capacity subscribed, should not be allowed to fail. It will fail unless compulsions are found which will bring the minority into line. If it fails, the industry will have slipped back further than in 1929.

The length of the working week in cotton textiles must be reduced. The industry must be brought to see that the only sound principle for its operations is to keep production and sales in reasonable balance. Someone has said that business today needs seamanship more than it needs navigation and I feel this is especially true in textiles. There are plenty of problems calling for navigation—for long-range planning. First, however, we must clear these breakers. Perhaps a Cato who will thunder day in and day out "Hours must be reduced" might eventually bring a solution.

Some compelling force must be invoked. It might come through concerted action of the governors of the cotton textile states. It may be that legislation is the only final answer. Certainly, unless the industry itself corrects this fundamental fault of overlong work weeks some outside corrective must be sought.

PLANNING TO END UNEMPLOYMENT

(*Continued from page* 620)

which the United States has now to explore. But it need not wait for a complete answer. It can inventory now the points at which pressure in the public interest can be applied.

In so far as continuity of employment involves the organization of the labor market and provision for transfer of workers from one job to another, the need is for a thoroughly competent organization of a national public employment service. Coupled with this, insurance funds representing reserves would be helpful, and could be so handled as to promote regularization in individual establishments. But experience in other countries shows that unemployment insurance under the pressure of continued or cyclical depressions speedily becomes relief. This must be clearly envisaged in advance, and the area beyond insurance in the strict sense of the word foreseen. Unemployment which requires relief must be prevented.

Taxation is a powerful instrument of control. Its application may obstruct or free production and purchasing power. Perhaps the time has come to look again at the analysis made by the man who wrote a book on Progress and Poverty forty years ago. A new review of the whole problem of land conservation, which includes all raw materials, appears to be in order.

Finance is a vital instrument of control. This is being recognized in the formation of the Reconstruction Finance Corporation. Perhaps the experience in administering this new federal law may be the starting point of a plan for continuity of employment for the United States.

A German industrialist and jurist, Dr. F. Meyer zu Schwabedissen, who is a convinced advocate of planning, has said:

There are two great possibilities of planning. One way is planning the stream of goods. The other way is planning the stream

of money. Planning the stream of goods is the Russian way. Money planning is there an instrument of production planning. The instrument of the planning of the stream of goods is the social "motor."

But in the planning which begins with the stream of money, the stream of goods is the instrument of the money plan. Such a plan permits private ownership of the means of production and profit and makes use of two possible motors, individual and social. The plan must be directed toward getting rid of a disproportion between the money stream and the stream of goods and also eliminating the disproportion between different branches of production. Purchasing power must be distributed not only among ultimate consumers but among entrepreneurs. Saving by the ultimate consumer turns mass buying into entrepreneur buying power. It is the use of buying power in relation to development of productive capacity, which is the important point.

Of America he writes, after suggesting certain changes in banking:

The central bank must simply be obligated to look after the stability of the price level and further to see to it that the energy of the money stream is always at a level which makes possible the full utilization of goods. Toward this end it is necessary that a production plan and a social plan be worked out, i. e., a plan for consumption as well as for production.

Who shall make the production plan? The proposal for a National Economic Council, in the bill introduced by Senator LaFollette, would seem to be an essential companion law for the Reconstruction Finance Corporation. Out of the planning of production could come guidance for the planning of credits, investments and money policies generally.

These are the instruments of community action toward continuity of employment: land planning, finance planning, production planning. But we have here not only the economic task of management of business but the political task of devising new instruments of government. In a democracy, sufficient voice must be given to all groups which can function in relation to such a new piece of inventive political development. A threefold grouping of labor, management and the community must work together to devise the governmental procedures and instruments through which industry may be socialized.

THOSE charts we have looked at and those we noted of employment on railroads, in coal mines and in hosiery factories for example are, however, not merely statistics of wage-earners but of consumers. They stand for the human beings who in a democracy must have their fair share of the control of the common life. The United States needs to set its workers free to function through labor organizations in keeping a fair level between standards of living and production. If the present economic depression be more social than economic—and many economists have analyzed it thus—then the place of the organized group of workers in planning production is fundamental.

The place of management is evident. Scientific management has given the technique. But one establishment and one owner cannot do it alone. He can use his science only if there be sufficient unity of action to bring about the balance of all related industries one to another.

The place of the community must be to serve as the *milieu* in which income is earned and spent. It can set standards through labor legislation in factories and mines. It can greatly enlarge the possibilities in standards of living through the community's provision for education, for recreation, for proper housing. The technique of the community toward these ends is to be found in experience in regional and city planning, toward which the social survey can make a large contribution. But regional planning and social surveys must probe deeper into economic forces if these are to be given their right place in the community as a whole. Only the community can hold the balance of the public interest and enable the branches of industry, labor and management to function together.

Between the Russian leader who advocates a plan to eliminate unemployment and the American leader who objects to planning but insists also upon regularization of employment, the issue can be decided only by experiment. The will to experiment is the first step.

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THE NEW LEAD FROM CAPITOL HILL

(*Continued from page* 577)

Both Mr. Harriman and Mr. Swope recognized, howeve that the public must be protected against unreasonable price They advised subjecting such restriction contracts to some so of control by a governmental body, but both vehemently denie that this might in the final analysis be a form of price-fixin

One of the most important weaknesses of the Swope ar Chamber of Commerce plans, as brought out in the testimo of Mary van Kleeck of the Russell Sage Foundation, lies i the absence of power by private agencies to secure essenti data from firms who refuse to cooperate with trade assoc ations. Indeed, as she pointed out, it was a trade body— the National Coal Association—and a group of steel com panies that, through the use of a court injunction, prevente the Federal Trade Commission from securing relevant infor mation on investments and profits in the coal industry in i 1920 study of the cost of living. These plans, she furthe showed, made no provision for employe representation in th task of planning production. Yet in last analysis such plannin means the determination of price policies which in the en influences the cost and standard of living for the workin population.

Of the three labor leaders who appeared before the Com mission—Sidney Hillman of the Amalgamated Clothin Workers of America, David B. Robertson of the Locomotiv Fireman and Enginemen, and William Green of the Amer ican Federation of Labor—Mr. Hillman was the only on who laid particular emphasis on the weakness of any instru mentality, constituted to deal with our economic difficulties which does not include representation of labor. Not onl did he disagree with the theory that industry could voluntaril achieve stability, but he insisted that the whole recorded his tory of industry proves the contrary. "They won't do it, the have not done it, and they will not do it. The only powe that can put it into effect is governmental action. There hav been promises as to what industry will do. We know tha nothing constructive from the large point of view was don when they were in a position to do it."

Mr. Green's objection to privately organized boards, as pro jected by Mr. Swope and Mr. Harriman, lay primarily in the danger that it would lead ultimately to government price-fixing, and that is where labor is interested, because that might be supplemented with the fixing of the rates for labor, and we would certainly be opposed to any plan that would even in a remote way provide for such a condition.

AFTER financiers, engineers, industrialists came the econ omists and among those who appeared before the Com mittee—John Maurice Clark, Wallace B. Donham, Lewis L. Lorwin, John A. Ryan, George Soule, Leo Wolman, Virgil Jordan, Paul M. Mazur, and J. Russell Smith—none ques tioned the need for an institution which would keep us con tinually informed of "the state of the nation." Walter W. Stewart, our recent representative at the Basle Conference to determine the state of German finances, justified the creation of such a council, however, "only on the assumption that it would be constituted of a personnel that would be of a suf ficiently high quality, with the virtues of foresight and of courage to champion an unpopular cause at a time when they think necessary." All felt that without such an institution little could be accomplished along the lines of rationalizing our economic activity. Dean Donham, of the Harvard School of Business, felt that a council could be organized privately by industry, but he agreed with the others that it was only on the initiative of the federal government that it was likely to be started. The economists were unanimously agreed further that the immediate function of a council was to serve as a collector and interpreter of all facts that bear in any way on our economic life, and to advise industry whenever possible of the probable trend of events.

And never have the scarcity and shortcomings of existing eco nomic data been more carefully elucidated than in the ex amination of J. Frederic Dewhurst, chief of economic re search of the Bureau of Foreign and Domestic Commerce.

His portrayal, which might well have been entitled "What We Do Not Know About Our Economic Life," showed what data we now have lacks many essential characteristics, and designated wide fields in which we have no information at all. Thus, for example, he pointed out that we know little or nothing about how our physical goods are distributed; whence they emanate; where they go; that we know but little about the stocks of commodities on hand; and that with the exception of department-store sales, which cover only 3 per cent of our retail trade, we have no data on consumer purchases. These are mere samples of the fields covered by Mr. Dewhurst, fields in which so many believe we are thoroughly versed. Without the collection and interpretation of this type of data, it was made apparent, we cannot intelligently get very far in stabilizing our economic system.

A definitely formulated plan for an economic council was presented by Professor J. M. Clark of Columbia University as the result of the deliberations of a committee of economists, appointed by the Progressive Conference of 1931. This proposed the creation, by the federal government, of a body to gather and analyze economic data and make plans and proposals. To perform this function he suggested that the body be composed of persons "whose qualifications should be defined in terms of things they have expert knowledge about, or experience with, rather than the interests they represent." Since the problems of organization vary between industries, administration should be assigned to industrial councils in each industry made up of representatives of management, labor force, and the consumers of its products. Their duties

might run all the way from the mere extension of trade association functions with a more adequate gathering and use of statistical knowledge for the guidance of trade policies, without power to control supply and control prices . . . to setting up consolidated organizations which would have the status of public utilities and be subject to the same kind of control of price and service, or even beyond that.

Roscoe C. Edlund, representative of the American Soap and Glycerine Producers, saw in an economic council a means for developing "a new conception of the trade association." The latter, he felt, could be made to serve as "a two-way bridge" between the economic planning group and the component parts of the various industries, over which information and advice could pass in both directions. Charles F. Abbott, executive director of the American Institute of Steel Construction, went beyond the Clark proposal and advocated in addition either compulsory membership in trade organizations, or a system of federal licensing for them.

Thus there passed in array forty-four men and women—representatives of a dozen sectors of our economic order. Each had his say about economic planning. Some scoffed; more praised. The fairness of the proceedings was the subject of comment on all sides, and particularly among members of the press. Personal, philosophic, and political disagreements were never allowed to mar the atmosphere. The upshot of it all was, first, a 752-page volume of economic data and opinion which bids fair to serve for many a day as a classic cross-section picture of American economic life and American thinking in this era of depression; secondly, reinforced determination on Senator LaFollette's part to see established some federal body which will at least collect and interpret the information essential to the intelligent guidance of our economic affairs.

Profiting by the advice and criticism of those who testified on the original draft—his revised bill provides for a body of nine members to be "selected on the basis of their acquaintance with and understanding of national economic problems." On this body there shall be "at least one expert in the fields of industry, finance, transportation, labor relations, agriculture, and scientific management." Its powers and functions are to be the same as those provided in the original bill with the additional mandate that it "shall initiate the organization of councils or associations within the major branches of production, distribution and finance." The National Council is to consider the recommendations of these bodies and suggest measures for putting such recommendations into effect. No trade body, however, is to be recognized (*Continued on page* 642)

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(*Continued from page* 641) unless it be "truly representative of the economic interests within the particular branch of production, distribution, or finance in which it is organized. When such is not the case, the National Council is to encourage its reorganization or the organization of a new body in its place. Thus there would be provided means whereby the National Economic Council can be in direct touch with representatives of industry, finance and labor, and a way paved for the mutual consideration of economic problems and policies.

The success or failure of S. 2390 as a piece of legislation will depend on whether or not we in the United States have reached the stage where we are willing to undertake a moderate initial step in the direction of information and orderliness, yet a step which may prove the threshold to coordinating and revolutionizing the controls of our economic life.

SCIENTIFIC MANAGEMENT'S BIGGER JOB

(*Continued from page* 581)

pany fell in the fall and winter. Practically they closed that department in the summer. It was bad for production management, bad for the workers laid off, bad for costs and bad for profits. Then they attacked the problem of scientific merchandising. They studied consumers and their tastes, new markets, adaptation of their product and ways of stimulating new, especially summer, consumption. As a consequence they have reduced the variations of seasonal sales to such a degree that they are able to operate an even production schedule throughout the year. This indicates the relations between stabilized selling and stabilization of production, which brings us to the next and latest step of scientific management—its development in the field of general coordination, or general administration (see The Survey, April 1, 1929, page 41).

Then General Administration

GENERAL administration is the function for which the directors, president and general manager of a business are responsible. They must view the business as an organic whole. General administration is concerned with such things as the organization and development of an enterprise, the investment of capital in equipment and inventories, and the coordination of the activities of operating departments. The problem of getting team work from a "diluted" and inexperienced personnel made this function stand out during the War, as did also problems of adjustment to a changing market and bitter experience with frozen inventories in 1921. So the technique of scientific management was given by some businesses another upward and outward spread to cover and stabilize general administration. Attention was given to economic indexes and these reports were supplemented by studies of specially organized economic research units attached to general executive offices. Standardization of operations as an organic whole was expressed in specifications of purpose, policy, long-time plans, and schedules of development of a business. This made possible better coordination of the operations of constituent departments—selling, finance and production. This better departmental coordination is an outstanding achievement of the past decade.

The most impressive mechanism representing this high plane of application of scientific management is the budget. A budget is a standard of achievement for an organization as a whole; a set of complete specifications setting forth what each unit is to do to carry out an over-all program and at what cost.

An organization which has achieved the aggregate of these successive and cumulative stabilizations—in work-place, shop, factory, industrial relations, merchandising and general administration—finds itself today in a relatively happy position. We have in mind one in which operations throughout 1931, although reduced, permitted full employment of the personnel. This is not a small enterprise with but a single plant. It has nine plants in six states, all controlled as precisely as the departments of a single factory.

But this exceptional record is beset with difficulties; profits are near the border line between black and red, and the hairs of its management are rapidly turning gray. They see other

firms in difficulties, frequently in bankruptcy, all around, and wonder what fate has in store for them. This is because of environmental forces beyond their control. The entire economic environment is one of slowing activity, of reduced employment and wages, lower consumer buying power, decreased demand for the products of this organization. That this concern is not among those which have let their workers go is due to such stabilization as scientific management has given it. But that stability is threatened by the instability and the general depression throughout industry.

And now Collective Management

CAN this spirit and technique of scientific management, which has stabilized successively greater areas of management, including multi-plant corporations, now be drawn upon to stabilize an even greater area of management—the collective management of all industry—so as effectively to reduce depression and general unemployment? There is strong presumption that it can.

Let us examine for a moment a special detail of technique which has played an important part on all these planes of stabilization for the individual enterprise. That is the function of planning. Superficial, casual planning has been present in industry from time immemorial, but scientific management has given us something different—functionalized, purposive planning. This new type of planning embraces research to get a factual basis for plans; standardization, or the specifications of elements which may enter into a plan; then deliberate combination of these elements into projects; then planned preparation for execution, and planned execution of the project. It is planning thus comprehensively conceived which effects stabilization of the individual enterprise—stabilization in the midst of change. It gives a business an institutional perception, memory and reasoning power. If for any period a master plan, or schedule, is soundly conceived, even if it is greater or less than the schedule of the preceding period, there is established a fundamental stability, for the situation is under control. If every activity directed toward achievement of the schedule is soundly conceived, stability is everywhere present. Planning the business as a whole to fit industrial conditions; planning merchandising to fit the particular market; planning production to fit merchandising; planning personnel requirements to fit all of these—in this manner relative stability is achieved in the individual enterprise.

There is apparently no way out of recurrent depressions, each more and more devastating to social morale, except by application of scientific management to industry collectively, especially as expressed in this principle of purposive planning. The reasons for depressions are too numerous and involved to be gone into here, but they have an important source in the blind scrambling of wealthy industry to make profits out of its wealth, resulting in the same confusion on a collective plane which was once present in the uncoordinated activities of individual plant departments. Inflated values of stores and goods in process and in stock, and frozen inventories, in the well managed individual business are a thing of the past. Similar planning, and nothing else, can eliminate the confusion and cross-purpose of blind, uncoordinated industry, general inflation, and frozen collective inventories.

How shall this principle be applied? *Technically* there do not appear to be insuperable difficulties. The difficulties lie in the field of motivation and purpose—in the emergence of a collective will to do what is necessary. That requires a social mental revolution, just as scientific management in the shop requires a mental revolution in the individual. Production for calculated need, with individual business profit as incidental, must in the social objective take the place of business for profit with production for social need as incidental.

If you ride daily in a commuting train frequented by business men and observe which pages of the newspapers hold special interest for them or if you overhear what they talk about most concernedly, you will understand what I have in mind. Paper profit from a turn in the value of an equity represented by a share of stock—not primarily and directly the supplying of society's need for goods—is the matter of dominant interest. There are in the newspapers no statistics bearing on production for need; whatever is done (*Continued on page* 644)

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(*Continued from page* 643) in this direction must be by guess and chance. Blind guess and chance bring at one moment exaggerated ideas of social industrial activity and inflated values of equities in social processes, and at another moment frightened pessimism, stoppage of activity, unemployment, depression, distress. If it could be realized that in the long run the values of equities must reflect the precision, balance, economy and competence with which human needs of consumption are satisfied, then perhaps there would be the will to have this accomplished on a collective plane in the manner in which it is done in the individual enterprise. The gap between individual interest and social interest would be bridged, because their interrelation would be perceived, and scientific management, so effective in stabilizing the individual organization, would be carried across the bridge and applied on a collective scale.

Calculation of need—measurement of social demand—is not a visionary concept. Current data concerning sales by articles would give a surprisingly dependable index of trends and of quantities to be produced. Many enterprises now make such calculations with sufficient accuracy to safeguard their sales-production programs. The automobile industry, for example, has for years been able to make reasonable forecasts of total seasonal demand. What has been the weakness in that industry has been the weakness in all industry: although the probable demand has been known each year, each of three or four major competitors has planned to sell three fourths of it. That is bad collective mathematics.

Some degree of government of business and industry through some form of a national planning staff is essential. We do not believe that it is necessary at first to give such a staff elaborately listed specifications of responsibilities and powers. Even in a private plant reorganization and betterment are not initiated by wholesale changes. A few strategic points are attacked first. A revolutionary recognition that the function of a national staff is to promote coordination of total industrial activity, and a few specific responsibilities and authorities, would suffice at the beginning. What might these authorities be?

IF we examine the critical elements of that planning which has given the individual enterprise such remarkable internal stability, we discover two which are outstanding. One is the responsibility to ascertain all the facts bearing on every problem, analyze them, determine their guiding significance and give this information to the operating personnel. The other is the responsibility to formulate specifications concerning the needs for materials, machines, other equipment, and labor requirements (all of which reduce to the application of capital and labor) involved in any program based upon the revealed facts.

We should therefore as a beginning, if experience has taught us anything, carry over into the technique of our national planning staff, first the power and responsibility to collect adequate industrial operating data; and second, the power and responsibility to direct, in the light of these data concerning consumption and production, the applications of capital and labor in industry. We do not have in mind, however, as will be seen later, arbitrary and detailed direction of the applications of capital and labor, or other local activities of individual enterprises.

What is customarily meant by "economic studies" will not alone serve the need for guiding information. They have their place, but as a rule they tell only past history—like the early cost accounting in industry. Modern cost and other statistical records used by management in individual businesses are continuous and up-to-the minute, and reveal conditions in time to do something about them. Correspondingly serviceable data pertaining to industry as a whole, and to specific industries, should be gathered currently by our national planning staff. Data of the kind we have in mind would disclose such things as production and imports of raw materials, raw materials purchased by converters, materials put into processing, finished materials in inventory, materials sold and passing into distribution channels, replacement and maintenance, new investment, and so on, published periodically by regions and by industries. Here would be something for collective industry corresponding to the internal managerial data now gathered by scientific management in individual units of industry. Possibly the regular publication of these data, making them available to all industrialists, would so enlighten individual managements that their independent programs would become more realistic and, because based on common information, more coordinated. It is surprising how sensible people can be when confronted by incontrovertible, revealing facts pertaining to a situation. The collective planning staff would, of course, accompany the publications of these statistics with analyses and advice, the moral influence of which would be an additional force making for voluntary, automatic coordination.

With respect to the power to regulate the investment of capital in new production, while the authority should be unequivocal, it is possible that a sensible collective planning staff would not often have to exercise that power directly. Here again the publication of essential data and pertinent analyses concerning the condition and needs of industry, available to investor as well as to promotor, would be a powerful force for conservatism. One source of our difficulty in business today is that the new productivity of industry has yielded such an abundance of capital seeking investment that the good old-fashioned voluntary saving has been increased by a vast amount of propaganda-induced saving—and entirely too much is being diverted from personal consumption into investment. This surplus available for saving has made possible the development of the specialized activity of investment banking which does not hesitate at times to resort to "ballyhoo" methods of stimulating investment by millions of small savers as well as big savers. The net result is periodic over-investment and unbalanced investment. It is not unlikely that periodic publication of cold, hard facts concerning consumption by commodities, existing investment and productive capacity of industries, and so on, and their interpretation, would puncture quite effectively the over-issues, over-valuations and over-inducements of investment banking as now practiced.

THESE are not the only things scientific management can contribute to collective planning; probably eventually more would be required. These represent strategic points for a beginning. Start by experimenting with competitive industry's ability to manage itself conservatively and in balance when everybody in it has the same current information—complete information, with respect to each industry, concerning production capacity, production, investment in new capacity, sales, sales trends, style changes, prices and other pertinent data. If the results of that step are not satisfactory, collective scientific management would discover in the reasons for the failure what the next step should be. The Gantt method of scientific management in private industry gets its admirable results almost entirely by the method of publishing operating data within the administrative and managerial staff—achievements, errors and the causes of errors. The people concerned do not like to make mistakes—the instincts for good workmanship and for cooperation are involved—and voluntarily correct the causes. This makes for balance. The principle is worth experimenting with in collective planning. If it fails, the detailed record of the failure would indicate the next step. That is scientific management's method.

The application of the planning principle on a collective scale appears to be inevitable. Something is going to be done to eliminate depressions, and the application of the planning principle is dictated by the experience of solving in private establishments problems identical in essence to those now confronting collective industry. Experience has given no other pertinent technique. If eventually, why not now, before the next debacle? And it should not be necessary to require specifications of the application of the principle to collective industry before deciding upon the general policy of application. We learn how to do by doing. The important thing is perception and definition of purpose, the will to do, and that same creative research which has accomplished so much in the past.

This article has dealt with national industry. That probably cannot really be stabilized so long as the interlocking business and industrial technology of the world remain unstable. Regional economic self-sufficiency and stability is probably an impossible goal; national business affairs are too inextricably mixed with world affairs. Beyond the problem of national stabilization lies the problem of international stabilization; in fact, the problems overlap. But that is another story.

AN OPEN LETTER

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CLARA E. LAUGHLIN, author of So You're Going to Paris (etc.), is bringing out a book on the British Isles. But it may be even greater news to some that there is a Clara Laughlin Travel Service at 18 East 53 Street, New York.

OPEN ROAD (11 West 42 Street, New York) announces that the Union of Russian Students offers to acquaint a student delegation with everyday Russian people, the results of the Five-Year Plan, etc. Also the League for Industrial Democracy is sponsoring visits to Germany, Russia, Austria, Swizerland, France and England with a view to noting the political and economic changes in progress.

SHERWOOD EDDY (347 Madison Avenue, New York) will again conduct his Study Pilgrimage to Europe. Irving Maurer, president of Beloit College, says of Mr. Eddy's American Seminar: "Its members are brought into contact with the heart of European thought in economic, social, political and religious fields. It is an adventure in international acquaintance."

Goethe

THIS month marks the hundredth anniversary (1749-1832) of the death of Johann Wolfgang von Goethe. The universality of the man is indicated by Leon Whipple, who says: ". . . he posed a problem that we have not answered; for he first included science as part of life, and sought the union of man and nature moving toward an infinite perfection whose essence is neither matter nor spirit, but both." Of course it goes without saying that visitors to Germany next summer, especially to Frankfurt and Weimar, the place of his birth and death, will be regaled with the life and work of Goethe through exhibitions, festivals and plays. But the occasion will be celebrated over the globe. In America, the Carl Schurz Memorial Foundation (225 South 15 Street, Philadelphia) has invited Prof. Eugen Kuehnemann of the University of Breslau and one of the most distinguished Goethe scholars, to lecture on Goethe in both English and German. In addition they are offering prizes totaling a thousand dollars to American undergraduates in a national essay contest on the subject of Goethe's Conception of Personality, or The Art of the Youthful Goethe (to 1776), or Goethe as a Lyric Poet.

Good Will Ambassador

STEPHEN P. DUGGAN, director of the Institute of International Education, is back from a four and a half months' tour in South America. In his case a "tour" meant meeting with the president of the country, the minister of foreign affairs, the minister of education, and others among the official class; lecturing at universities; holding round-table discussions with members of the faculty, groups of students and scholars generally; visiting and speaking at many of the excellent American schools and institutions of higher learning which are scattered about South America. Apart from spreading understanding and good will, his trip resulted in a number of specific things; and how much they appreciated his work was expressed by three South American universities in granting him the degree of Litt. D.

Comparative Rates

THE following table shows the relative cost of rooms, food and service in the various countries in which we spent a total of nearly six months. The figures for Switzerland and Czechoslovakia are the least significant as we spent shorter periods there. We were able to secure the old type of "lodgings" more than has been the case for many years. We have taken the expenses in England, where we spent the longest time, as 100 per cent:

Holland	120
Switzerland	110
Czechoslovakia	108
England	100
Germany	82
Austria	75
France	72
Wales	56

FRANK A. MANNY

TELEPHONES

(*Continued from page* 599)

All forecasting in the American Telephone and Telegraph Company proceeds from the bottom upward; that is, it originates in the need of one of the associated units and thence travels upward until it includes the headquarters staff. Let us assume, for example, that a local or regional company wishes to plan for the future telephone needs of a growing city. Planning begins with a survey of the locality made by local specialists; this survey produces a picture of the city as it now exists indicating business, residence, manufacturing, and unoccupied districts; it also indicates the present use of telephone equipment, the location of central offices, and so on. The local survey group may or may not have been aided up to this point by the headquarters staff. In any case, collaboration is likely to be sought at or near this point. Comparisons with other cities will need to be made and other types of comparative data will be utilized, most of which may be readily secured through the parent company.

But the real perplexity in planning arises after this realistic picture of the community has been studied and charted. What is now needed is a picture of this same community "imagined" after a period of growth. The local study must now be correlated with regional and national studies. From this point onward the plan evolves as a gigantic, cooperative enterprise. Yet planning remains an integral part of ongoing management of the self-governing units. In short, it emanates from needs, from situations confronted, and proceeds horizontally throughout the total organization involving ultimately all related departments. Planning orders do not originate at the top nor are the plans themselves executed by means of centralized managerial strategy or command.

There are at present certain protagonists of industrial planning who appear to believe that some form of force or coercion is essential; they seem to wish to place the responsibility for planning in the hands of highly centralized boards of strategy and command. In other words, they expect a small group to do the planning while others merely obey. Planning of this sort has often been attempted in agriculture; farmers have signed agreements not to plant more than a specified number of acres of a given crop; some kept the agreement while others proceeded to plant increased acreages in the hope that their neighbors would stick to the plan and that they, consequently, might profit by the increased price incident to a relatively short crop. Even cooperative marketing societies have been organized on the basis of legal penalties for infringements of rules and agreements. But these types of coercion have thus far failed in this country. If industrial planning enthusiasts are seeking evidence to support some future scheme of coercion, they will find little aid and comfort in the experience of the American Telephone and Telegraph Company. On the other hand, if they are seeking for illustrations and examples of planning which evolves from recognized need to large-scale and voluntary collaboration, they will find in this company a most profitable laboratory.

THE SWOPE PLAN AND AFTER

(*Continued from page* 585)

to be elected by the employes of the member companies, and three, representing the public, to be appointed by the federal supervisory body. These boards would have no voice in the management of the industries. Their powers and duties would be strictly limited

to interpret the life and disability insurance, pension and unemployment insurance plans adopted by the trade association and approved by the federal supervisory body, supervise the individual company boards of administration, form and direct a pension trust for the custody, investment, and disbursement of the pension funds, and in general supervise (*Continued on page* 648)

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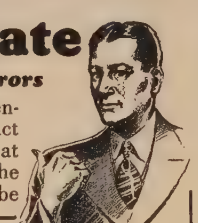

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(*Continued from page* 647) and direct all activities connect with life and disability insurance, pension and unemployme insurance plans.

Mr. Swope gives elaborate details as to the conditions of pa ticipation under each of his insurance headings expressing h sense of what would be at once just and practicable. His on reference to the employes as participants in the execution his plan is in connection with these boards of administratio There is no indication that his conception of organized indust as expressed in the trade associations includes the represent tion of the organized wage-earners in these associations. It only as beneficiaries and not as parties having an interest the conduct of the industry itself, that the voice of the wa earners is heard. The organized labor movement, as repr sented by the American Federation of Labor, the railro brotherhoods, and the Amalgamated Clothing Workers, is completely ignored in Mr. Swope's plan as if it were no existent.

This fact alone would seem to put the plan as it stands, i asmuch as its adoption is contingent upon legislative actio by Congress, beyond the probabilities of practical politics. is not readily conceivable that congressional committees woul fail to give the established trade associations of labor c ordinate recognition with the trade associations of manu facturers.

But the field is open for voluntary action. The only sectio of Mr. Swope's insurance program which has not alread been the subject of extensive legislation is that dealing wit unemployment insurance. Many trade associations of the kin upon which Mr. Swope pivots his plan are already in existenc and have been for years.

There would appear to be no insuperable barriers either i federal or state law against the voluntary development b these associations of such a plan of unemployment insuranc as he proposes. But here, as formerly in the case of work men's compensation, industrial leaders have not shown co spicuous initiative. Less than one per cent of the wage worke of the United States are covered by unemployment reserve and of this one per cent, approximately one third are covere by the unemployment insurance scheme initiated by Mr. Swop himself in the General Electric Company.

THE men's clothing industry affords the outstanding ex ample of an attempt to extend voluntary unemployment in surance throughout a nationally organized trade. Even here it is only the workers who have achieved a national organ ization. The initiative came, not from the manufacturer bu from the trade-union leaders, and notably from Sidney Hill man. Appearing before the Senate Committee on Manu factures Mr. Hillman was asked by Senator LaFollette whethe he agreed with Mr. Swope's plan, "which is based on th theory, as I understand it, that trade associations within in dividual industries can achieve the stabilization of the indus tries." Mr. Hillman expressed emphatic disagreement, basin his opinion upon actual experience. Even in normal times, n one industry, he declared, can stabilize itself. [See page 58 of this issue.]

It is in the formulation of the guiding objective of industria planning that Mr. Hillman and others who share his funda mental point of view differ most significantly from Mr. Swope Granted freedom from the present restraints of the anti trust laws, Mr. Swope explains,

> what industry would endeavor to do would be to prevent *over*-production, and would regard as an unfair competitor any membe of such trade association who, knowing the consuming power o the public and the stocks on hand in the possession of all member of the association, regardless of these facts built up a large in ventory, which later must be sold at reduced prices, quite re gardless of cost. Such practices are unfair to the competitors them selves and highly unfair to the labor employed; and such price below cost for a brief period are of no lasting benefit to the con suming public.

Coming from the chief executive of a great company dedi cated to the production of machinery designed to speed up production, this suggestion that the first step in industria planning should be the limitation of production in order t stabilize prices is particularly (*Continued on page* 653)

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(*Continued from page* 648) interesting. Mr. Hillman's first step would be the definite localization of responsibility and power in some governmental authority "to guarantee a standard of living that is justified by our productive capacity." This point was elaborated by John Maurice Clark, professor of economics at Columbia University, who, when asked by Senator LaFollette whether he believed that "the essential need in American industry is for a planning system which will limit production," answered: "I believe that is one of the chief dangers to be avoided in a system of economic planning. It seems to me the chief trouble with the existing system is that it does not allow us to utilize our productive powers."

This divergence in point-of-view with respect to the guiding objective of industrial planning is crucial to the formulation of any sound plan to ameliorate and ultimately to eliminate the "psychology of fear" in connection with employment and unemployment. Mr. Hillman and Professor Clark take for their guiding objective the increase of consuming power through the elevation of the standard of living of all the people; Mr. Swope sees the key to the problem of industrial stabilization in the restriction of output and the maintenance of prices at a level sufficiently high to guarantee a satisfactory rate to stockholders and to provide the incentive for continued production. The first obligation of the industrial executive is to his stockholders; his first duty is to maintain the solvency of the enterprise. However reluctantly, he is compelled to discharge workers when he cannot employ them profitably. Even so great a corporation as the General Electric Company with its unique system of unemployment insurance and other arrangements designed to promote the economic security of its employes has more than once been forced to make that choice. But while employment has fluctuated far beyond the limits which various safeguards for G.E. workers reach, in over thirty years the regular cash dividend on the common stock has unfailingly been paid, although the number of shares outstanding has repeatedly been increased by "split-ups"—four to one, for example, in 1926 and again in 1930. It is because Mr. Swope recognizes the inequity of this situation that he appeals to industry to take the initiative in developing a competitive system of social insurance against unemployment. But why has organized industry never been conspicuous for initiative in this field? It is not because industrial leaders are less humane than other men. It is because the economic security of the total citizenship and the maintenance of the general standard of living is not their function. Mr. Ford is quoted as ingenuously pointing out that it is not even the business of industry to provide employment at all. The business of industry today is to produce marketable commodities and to sell them at a price that will give a satisfactory return on the investment. It is only as an incident to the performance of this function that industry has practically concerned itself with the people to whom it pays wages as a part of the cost of production. It is for this reason that while Mr. Swope's plan has hardly escaped beyond the atmosphere of academic discussion that Wisconsin has turned to the state as the natural and most satisfactory agency for the setting up of unemployment reserves.

IT is consonant with American individualistic tradition that everything should be left to private initiative that private initiative can reasonably be expected to carry, but it is increasingly consonant with our American tradition to resort to legislative action where private initiative is inadequate to safeguard the total public welfare. The strength of Mr. Swope's plan is in its clear definition of many things which private initiative may reasonably be expected to do. Its greatest weakness is in its reiteration of the common fallacy that public action and private initiative are necessarily antagonistic, when as a matter of fact they are effective only when they are intelligently complementary.

For the problem of unemployment is not a problem of industrial organization and management only; it is a problem inherent in the planlessness of our total economic life. Its solution demands the integration of all our resources, private and public, toward the high measure of universal security which science and invention have made possible for the first time in the history of mankind.

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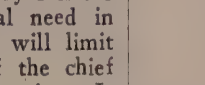

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PLANNING AND THE CONSTITUTION

(*Continued from page* 617)

it, what Congress has done, Congress may undo. The process s already begun. Exporters of products from the United ates may combine for the purpose of export. Their combi- tions or associations have been freed from the limitations of e Sherman Act, so that they can form a unit as against thei reign competitors. They can have single sales agencies; they n regulate the amount of their product to be sold; even the ices at which it is sold. There is no statutory limit under e anti-monopoly laws to prevent their operating under any an they may see fit to accept voluntarily. They are, however, liged to keep the Federal Trade Commission informed as to eir scope and their business.

If public opinion can be persuaded that the same measure of eedom should be given to producers and distributors in re- ect to the interior trade of the country, as they already enjoy respect to foreign trade, there is no reason why Congress, ting in response to public opinion, should not modify the anti- onopoly laws to permit the operation of a national plan.

Right here however we run into the complications of our deral system again. Public opinion in favor of free competi- on has been crystallized in state as well as federal legislation, that the plan must be agile enough to negotiate the bars of e state laws, even if the federal gate is opened wide for its ssage. The simplest way, of course, would be to open up e state gates also, but our problem here is to consider how ccessfully the plan could vault the state barriers if the states ep them up. The courts have frequently said that the power Congress is the power to foster and control the current of mmerce between the states and foreign countries. Most of e legislation having its roots in that power has sought so to ntrol that current that fair treatment will be secured both to llers and buyers. Competition has been assured so that no onopolies can dam the stream. This means that Congress has visaged the current of commerce as flowing more freely and being more beneficial to the country provided it is not inter- red with by complete or partial monopolies and provided there e no contracts or understandings between business men which nit the goods entering the stream. If, however, Congress thorized planning on a national scale, this would mean that members had shifted their ground and believed that the cur- nt of commerce, the distribution of goods among the people of the different states, would be aided by arrangements assuring a more even flow of goods and preventing the evils arising from a flood at one period and a trickle at another. Congress may well come to believe that planning in the industries and agriculture would assure a steady volume of business on the railroads, thereby helping the national transportation system, and also would advance the general prosperity and well being of the people.

The question then narrows down to how far state legislation can prevent Congress from carrying out these objects. If, for example, a voluntary plan were set up under federal auspices in the shoe trade, regulating production, dividing sales territory, or doing any of the other things which the anti-monopoly statutes say competing corporations must not do, but which a plan-minded Congress might think they ought to be permitted to do, could two shoe factories in the state of Massachusetts take part in it in confidence that the Massachusetts statute would not enjoin them? Here we are entering into constitutional prophecy, since this precise question has never been decided; yet with the general trend of the decisions before us it is at least probable that the judges would not allow the Massachusetts manufacturers to suffer because they conformed to the federal law. To support our prophecy we may point to the action of the Supreme Court in preventing the application of state laws and permitting the application of federal laws to transactions which affect interstate commerce, although the transactions themselves were begun and ended within the state. For example, it has held that the purchase and sale of cattle in the stockyards at great centers of the packing industries may be regulated by the federal authority and that a contract between buyers and sellers of grain is free of the operation of a burdensome state law where the grain is to be sent to another state. If the state law were permitted to interfere with the carrying out of the plan, the regulation of interstate business which Congress had considered appropriate would fail. This would be a denial of the power of Congress over interstate commerce, a power which the Court has vigorously maintained.

It is unnecessary to repeat what has frequently been said by this court with respect to the complete and paramount character of the power confided to Congress to regulate commerce among the several states. It is of the essence of this power that, where it exists, it dominates. Interstate trade was not left to be destroyed or impeded by the rivalries of local government. The purpose was to make impossible the recurrence (*Continued on page* 656)

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(*Continued from page* 655) of the evils which had o whelmed the Confederation, and to provide the necessary bas national unity by insuring "uniformity of regulation against flicting and discriminating state legislation." By virtue of comprehensive terms of the grant, the authority of Congress all times adequate to meet the varying exigencies that arise, to protect the national interest by securing the freedom of i state commercial intercourse from local control.

We must, however, go a step further. The shoe manu turers make shoes not only to ship to other states but als sell to the people in Massachusetts. Congress has no righ interfere directly with the state legislature's idea that t should be no restraint of this intrastate trade by way of p or any other agreement. But it may be very inconvenient, haps impossible, to operate a shoe factory on a plan basis, less the whole production of the plant be under the plan, in as well as interstate. If this be so, then we may be enc aged to believe that the federal act will prevail and that ordering of the current of interstate commerce in the nati interest through a plan would be allowed to be extended to intrastate part of the plant's business. Just as the court fused to permit a state's notion of the proper railway r within its boundaries to jeopardize the national railway syst so it would, probably, prevent local belief in unrestrained c petition destroying the effectiveness of a federal plan.

IF the scope of the voluntary plan should comprehend inter ence with the operation of the factories in respect, for ample, to safety and labor conditions we must make a dist tion. So far as it provided higher standards of safety or wo ing conditions than the state law it would not be objection as an interference with state legislation and might be upheld an agreement between the concerns accepting the plan. If, h ever, it contained provisions contrary to the state laws, then decision of the Supreme Court in the child-labor case would flatly against their validity. There is no indication that Court would permit Congress, or any administrative autho acting under congressional sanction, to substitute its opinion to what labor conditions should be, for the opinion of the s eral states expressed in their statutes. The current of int state commerce which concerns goods, their transportation their distribution would scarcely be held to be affected by number of hours of labor spent by the workers who produ them or by the character of the protection to life and limb the factories or mines from whence they came. The power regulate labor conditions and provide for the health and saf of workers will still remain in the states. It might be possi by a carefully considered plan to do some things, for exam to provide for reserves for unemployment in the interst group of industries involved, but even here it is possible t there would still be necessary state legislation to enable producers, mainly state corporations, to set aside adequate serves and to make the proper kind of arrangements with th employes.

The courts are the final arbiters on questions of consti tionality, but in considering what their probable action will on a new type of social legislation, we must remember t they are not the first judges of its consonance with the tional instrument of government or with the national welfa They are the third instance only and it is reasonable for to take into consideration the situation of a statute when is presented at the bar of the Supreme Court before we fo cast the probable decision there. First of all, the propone of a statute must convince the ruling public opinion of country. They must come before Congress and subject th proposed statute to the critical judgment of the committe and of the main body of the representatives of the nation each house. Then the President, who with his veto pow forms an important part of the legislative machine, must a be persuaded. Consequently, when the case is called at the b of the tribunal of last resort, the statute will have a stro presumption in its favor. The presumption will particularly to the vital point of the need for the action taken and of probable effectiveness of the plan proposed in accomplishing result aimed at. To say the least, the approval at the bar public opinion and at the bar of Congress will have its eff at the bar of the Supreme Court of the United States.

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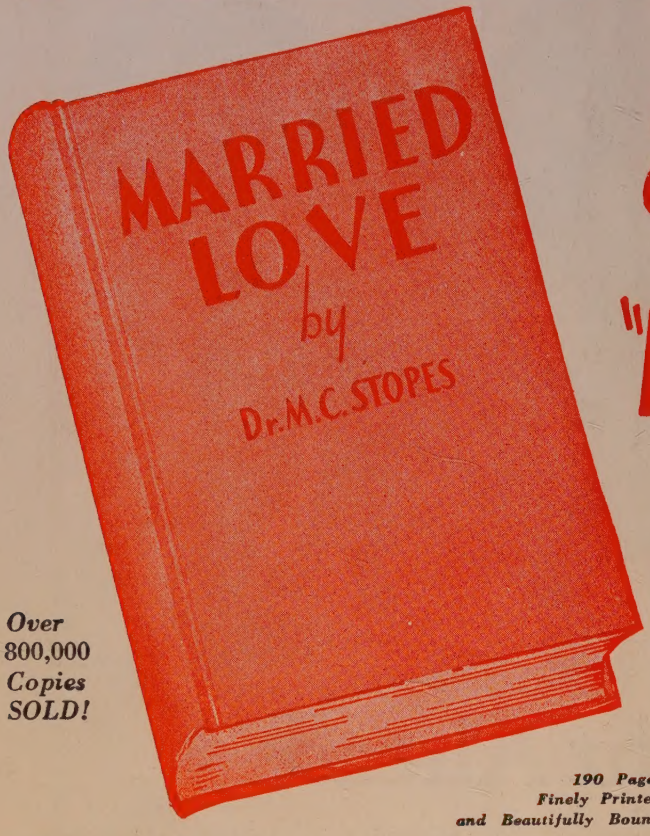

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